# International Journal on e-Learning Practices

IJELP Vol. 5, December 2022
eISSN 2600-7886

UMS
UNIVERSITI MALAYSIA SABAH

# International Journal on E-Learning Practices

Volume 5, December 2022

**ISSN 2289-4926**
**eISSN 2600-7886**

PENERBIT UNIVERSITI MALAYSIA SABAH
Kota Kinabalu ● Sabah ● Malaysia
http://www.ums.edu.my/penerbit
2022

Member of Ahli Majlis Penerbitan Ilmiah Malaysia
(MAPIM)

Text type and leading size: 11/13.2 points

Published by: Penerbit Universiti Malaysia Sabah
Tingkat Bawah, Perpustakaan
Universiti Malaysia Sabah
Jalan UMS
88400 Kota Kinabalu, Sabah

## About the Journal

The International Journal on E-Learning Practices (IJELP) (ISSN 2289-4926 / eISSN 2600-7886) is an international peer-reviewed journal. It is also the latest flagship journal of Universiti Malaysia Sabah (UMS). IJELP is the 12th journal of UMS since its establishment on 24 November 1994. IJELP is published once a year. IJELP is published in English and it is open to all local and international authors.

## Aims and Scope

IJELP is an online open access journal aimed at disseminating and sharing of e-learning practices to worldwide audience. IJELP accepts manuscripts in the area and sub-area of e-learning such as teaching and learning with technology, mobile learning, e-learning technology and innovation, multimedia-based learning, Computer-Assisted Language Learning (CALL), best practices in e-learning using social networking, PLE, management, assessment, administration and leadership. The journal aims to be indexed by MYJOURNAL and later on with MYCITE after six periodic issues are published.

## Editorial Board



**Editorial Office**
Faculty of Psychology and Education
Universiti Malaysia Sabah, Jalan UMS, 88400 Kota Kinabalu, Sabah, Malaysia
Phone: (6)088-320000 Ext: 2471 Fax No.: (6)088-320268 E-mail: cktanums@gmail.com

## EDITORIAL PREFACE

Welcome to Volume 5 2022 of the International Journal of e-Learning Practices (IJELP). IJELP is one of the printed and online open access journals published by Universiti Malaysia Sabah, Sabah, Malaysia. IJELP is aimed at sharing and disseminating e-learning practices such as teaching and learning with technology, mobile learning, e-learning technology and innovation, multimedia-based learning, Computer-Assisted Language Learning (CALL), best practices in e-learning using social networking, PLE, management, assessment, administration and leadership to worldwide audience.

For Volume 5 of IJELP, we have a selection of articles covering a number of stimulating topics related to the applications of ICT, blended learning, Computer Assisted Instruction (CAI), and e-learning practices from overseas and Malaysia. There are four articles from Vietnam and two articles from China. The articles discussed on learning via the use of technologies such as Memrise and flipped classroom technoques. Meanwhile, the Malaysian studies cover an interesting array of topics such as creativity technique in teaching and learning and online lesson plans generation platform. We are confident that you will find this eclectic choice of topics both beneficial and enlightening for your research and professional development.

We would like to take this opportunity to express our heartfelt thanks and appreciation to a number of blind reviewers who have contributed their valuable time and effort in reviewing the articles. I also offer my sincere appreciation to all editors for proofreading all the articles submitted for this volume. We hope to seek your continued support and assistance in helping us to publicise IJELP to your colleagues, friends, and graduate students.

Sincerely,
Volume 5, 2022
Editor-in-Chief
Associate Professor Dr. Tan Choon Keong

# International Journal on E-Learning Practices

Volume 5, December 2022

## Contents

# A PROTOTYPE SYSTEM FOR GENERATING LESSON PLANS FOR SECONDARY SCHOOL TEACHERS

Tan Choon Keong
Faculty of Psychology and Education, Universiti Malaysia Sabah
cktanums@gmail.com

## ABSTRACT

The Ministry of Education (MOE) Malaysia directed that every teacher of secondary schools is responsible to prepare lesson plan for each lesson when teaching in a class. The paper reports the use of a prototype system by school teachers to produce digital lesson plans. The system was developed utilising the ADDIE Model. Five teachers from Kian Kok High School, Kota Kinabalu, Sabah was selected to test-run the system. The results of the interview were analysed in a qualitatively way. The findings showed that all the 5 subjects agreed the system was able to function smoothly to create digital lesson plans. Many other functions were tested and also reported to be successful. There were many challenges were reported by the subjects but the researcher was only managed to attend to some of them due to financial constraints of the grant. The research concluded that lesson plans generator that is reliable and effective must be in the online mode in the future so that users can access more teaching resources.

**Keywords:** ADDIE Model, digital lesson plan, lesson plan generator, system test-run

## INTRODUCTION

Teachers are responsible prepare lesson plan each time they enter a classroom as far as MOE is concerned. This directive is compulsory and teachers must be armed with lesson plans, teaching aids and assessment activities for effective teaching and learning in classroom teaching. Without a lesson plan, teachers may be in a total loss of direction and ideas when entering a class. If a teacher fails to plan the teaching tasks, students will lose focus and concentration during the lesson. Lesson plan states learning goals, individual or group activities, from set induction until the closing (summary) including reflection (Richards & Bohlke, 2011)

Writing digital lesson plan via technology will direct students towards quality teaching and learning outcomes (Wilfred, 2016). This is because the use of internet will improve the quality of lesson planning. Retention of knowledge, attention and motivation in learning can be achieved if a good quality lesson plan is unveiled and implemented (Ozdamli & Uzunboylu, 2014). This research will present the perceived perceptions of some teachers regarding the use of this prototype system, the lesson plan generator. The research questions are:

1. What is users' perceived satisfaction regarding the interfaces of the system?
2. What are users' opinions regarding the functionalities of the following:
    - Data input session
    - Lesson plan generator
    - System sort functions: lesson plans according to date, time or subject, etc.
3. What are users' challenges while using the system?

## LITERATURE REVIEW

### Importance of Digital Lesson Plan

Globally, lesson plan is important for every teacher. For example, China teachers use lesson plan to measure teaching and learning and also do personal reflection after each lesson (Shen et al., 2007). It is considered as a responsibility for every teacher in China to use the lesson plan tool to achieve excellence in teaching and learning. In a university, lesson plans together with course-based reflection will enable colleagues in the same program to share thoughts, experiences and collaborate more effectively to ensure positive students' engagement and achievement. Comparatively, the Chinese teachers seriously focus on course reflections for improvement whereas the American teachers reflected only after 7 - 8 hours of teaching (Su et al., 2005). This demonstrated the importance of the lesson plans for China teachers.

The lesson planning process usually starts from the semester level until the unit level. Topical mapping in a semester is first done before the unit level's lesson plan commences. Some of the important aspects in a unit lesson plan are:

- Defining goal or learning outcomes
- Sequential steps of teaching or inputs by the teacher from set induction up to the activities of the students
- Evaluation (assessment) for students
- Reflection

In this research, preparing lesson plan is done using the same practice and approach with the help of the technology tool. Teachers were encouraged to prepare digital lesson plans. Digital lesson plan is actually similar to the physical lesson plan but it is in digital format which can be stored on an online platform, CMS/LMS etc. The offline mode version is stored in a localised computer Server or installed software that has a database (Bomar, 2014). In this research, the offline system was chosen due to limited grant funding. The offline database system that can also be installed in any localised computer Server.

Having a digital lesson plan benefitted teachers in many ways in an education 4.0 environment (Ahmad Sugianto, 2020). For example, resources from internet such as activities required for 21st century skills, higher order thinking and creativity are widely available on the web. The implementation of a good quality digital lesson plan will create effective teaching and learning outcomes (Bialik & Fadel, 2015). Therefore, teachers are encouraged to use digital lesson plan as much as possible. This research is designed to involve many teachers to create good quality lesson plans.

## RESEARCH METHODOLOGY

### Method

This research is qualitative in nature. It uses the interview method to for data collection. According to Shaughnessy et al. (2011), in an interview, discussions with the subjects would be held to deeply explore a specific topic to collect information. Interview is often used to assess thoughts, opinions, feelings and perceptions on any behavioural construct (Gravetter & Wallnau, 2015). This research employs the group focus interview to collect data from the subjects.

### Sample

The implementation of this prototype system was affected by the on-going Covid 19 pandemic declared by WHO in February 2020. Consequently, travels restrictions and movement control

were implemented by the government which affected the education sector badly. Due to this factor, only five teachers were selected as subjects for a trial run of the prototype system.

The test-run was designed to ensure all functionalities of the system run smoothly to generate digital lesson plans. All subjects attended a briefing to demonstrate the step-by-step approach to create a lesson plan using the system. The researcher allowed a 1-month trial for all the subjects. At the end of month, the researcher conducted the interview to gather data on the subjects' satisfaction for the system including identifying issues related to the system.

**Instrument**

An interview protocol was prepared for the purpose of data collection. The group focus interview focused on the following questions:

1. What is your perceived satisfaction regarding the interfaces of the system?
2. What are your opinions regarding the functionalities of the following:
    - Data input session
    - Lesson plan generator
    - System sort functions: lesson plans according to date, time or subject, etc.
3. What are the challenges while using the system? Describe.

**Data analysis**

The interview produced qualitative data. The type of data analysis for the three research questions is shown in Table 1.

**Table 1:** Data analysis

| Research Questions | Data Analysis Method |
|---|---|
| What is perceived satisfaction regarding the interfaces of the system? | Qualitative data: interview transcripts |
| What are your opinions regarding the functionalities of the following:<br>• Data input session<br>• Lesson plan generator<br>• System sort functions: lesson plans according to date, time or subject, etc. | Qualitative data: interview transcripts |
| What are the challenges while using the system? | Qualitative data: interview transcripts |

**Development of the prototype system**

The ADDIE Model is used in the development of this prototype system. The five phases of ADDIE are namely analysis, design, development, implementation and evaluation phases.

Analysis Phase:

In this phase, some teachers from the secondary schools were interviewed by the researcher. These teachers were Masters of Education (by coursework) students in UMS. They were interviewed on the various aspects and stages of writing lesson plan writing and its challenges. These initial analyses and understanding of lesson plans helped the researcher to prepare the data flow diagram and data structure of the database of the system.

Design Phase:
In this phase, the produced data flow diagram (DFD) helped to counter-check data flow issues. After a few rounds of discussions, the data structure or data dictionary for the database was finalised. The prototype system has two tables in its database. The first table is set as "tbllessonplan" while the second is "tblpersonal". Table "lesson plan" stores all the inputs regarding to the characteristics of a lesson plan while Table "Personal" has all the information of the owner of the lesson plan. Table 1 shows the data dictionary of "tbllessonplan".

**Table 1:** Data dictionary (Table lesson plan)

| Field Name | Data Type |
|---|---|
| ID lesson | Number |
| Set Induction | Long Text |
| BBM Set Induction | Long Text |
| Presentation Stage | Long Text |
| BBM Presentation Stage | Long Text |
| Practice Stage | Long Text |
| BBM Practice Stage | Long Text |
| Production Stage | Long Text |
| BBM Production Stage | Long Text |
| Reflection | Long Text |

All the fields are set as "long text" to enable multiple lines for users to key in paragraphs of information. Table 2 shows the data dictionary for "tblpersonal".

**Table 2:** Data dictionary (Table personal)

| Field Name | Data Type |
|---|---|
| ID lesson | Number |
| Teacher's name | Short Text |
| Gender | Short Text |
| Day | Short Text |
| Date | Date/Time |
| Time | Short Text |
| Duration (minutes) | Number |
| Class | Short Text |
| Form | Short Text |
| Number of student | Number |
| Subject | Short Text |
| Topic | Long Text |
| LO | Long Text |

The two tables store all the fields related the characteristics of a lesson plan. The primary key must be identified to unlock each lesson plan record. The database's primary key is set as "ID lesson" so that a relational database can be established to ensure data mining processes can be integrated. This will greatly enhance data integrity and solve the problem of data repetition.

Development Phase:
In this phase, the researcher identified a database management system (DBMS) for database development. This research is limited in term of grant funding and therefore the online database method (DB) cannot be considered because even the cheapest system that can be developed by a software house is estimated to be around RM50,000 (including the hosting for the online DB). As a result of the financial constraint, the researcher used DBMS system from MS Access that is part of the MS Office software that was officially subscribed by UMS. Although MS Access has its limitations but it can still host a DB that is on an offline mode. After three months, the final version of prototype system was finally ready.

Implementation Phase:
The implementation of the lesson plan generator for test-run was done in May 2022. Five teachers from Kian Kok High School, Kota Kinabalu were selected for the purpose. The results will be reported in the findings section.

Evaluation Phase:
The research will analyse and evaluate the findings of this phase in the findings section.

## FINDINGS

After the five teachers from Kian Kok High School, Kota Kinabalu test-run the prototype lesson plan generator, they attended a focus group interview. The results of the interview will be highlighted in this section. The following is a screenshot of the main menu of the system (Figure 1).

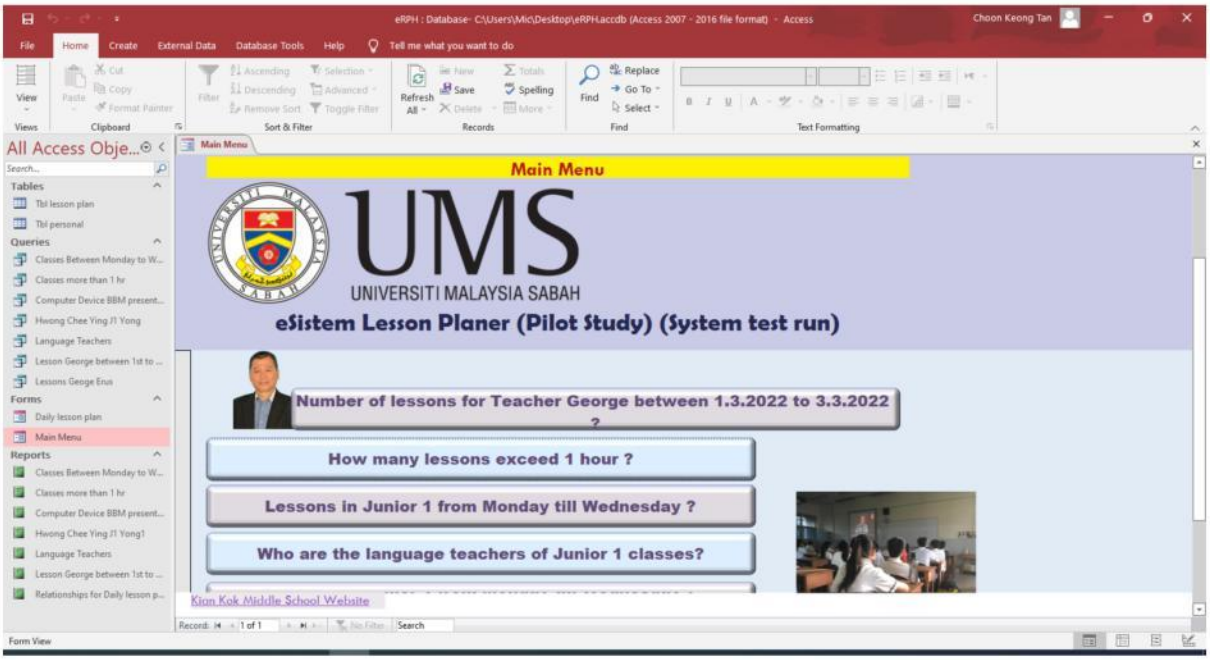



**Figure 1:** The main menu

The system was tested for the following functionalities:

- Data input session
- Lesson plan generator

- System sort functions: lesson plans according to date, time or subject, etc.

Research question 1: Satisfaction with the system interfaces
The five subjects answered the first interview question "What is perceived satisfaction regarding the interfaces of the system?" Four subjects answered "Yes" with some positive comments. The 1st and 2nd subjects agreed that "the interfaces and functions were user-friendly" because they can be clicked easily from the main menu. However, the 4th subject commented that "if the main menu can be re-arranged to see button such 'key in data', 'generate lesson plan', 'print lesson plan', etc. it will be better."

The researcher noted the comments of subject number 4. The system will be maintained and re-programmed to upgrade the main menu.

Research question 2: Functionalities of the system
The subjects were asked "What are your opinions regarding the functionalities of the system?". The functionalities of the system refer to the following:

- Data input session
- Lesson plan generator
- System sort functions: lesson plans according to date, time or subject, etc.

Figure 2 displays the screen shot for inputting data for generating lesson.

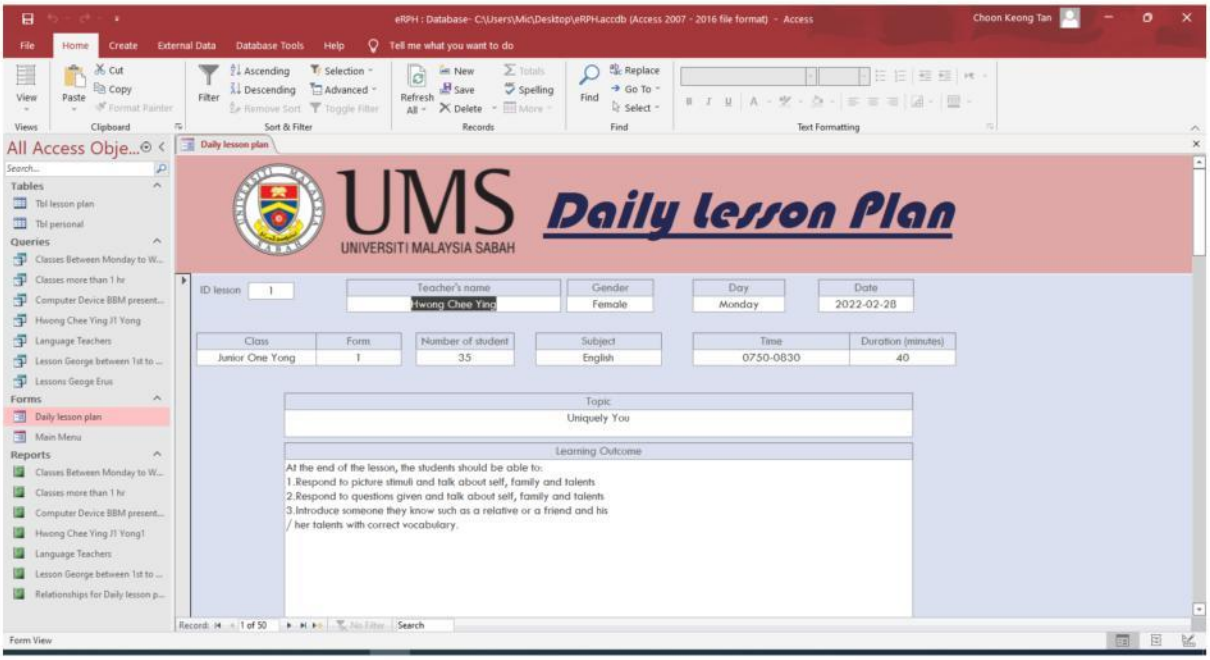
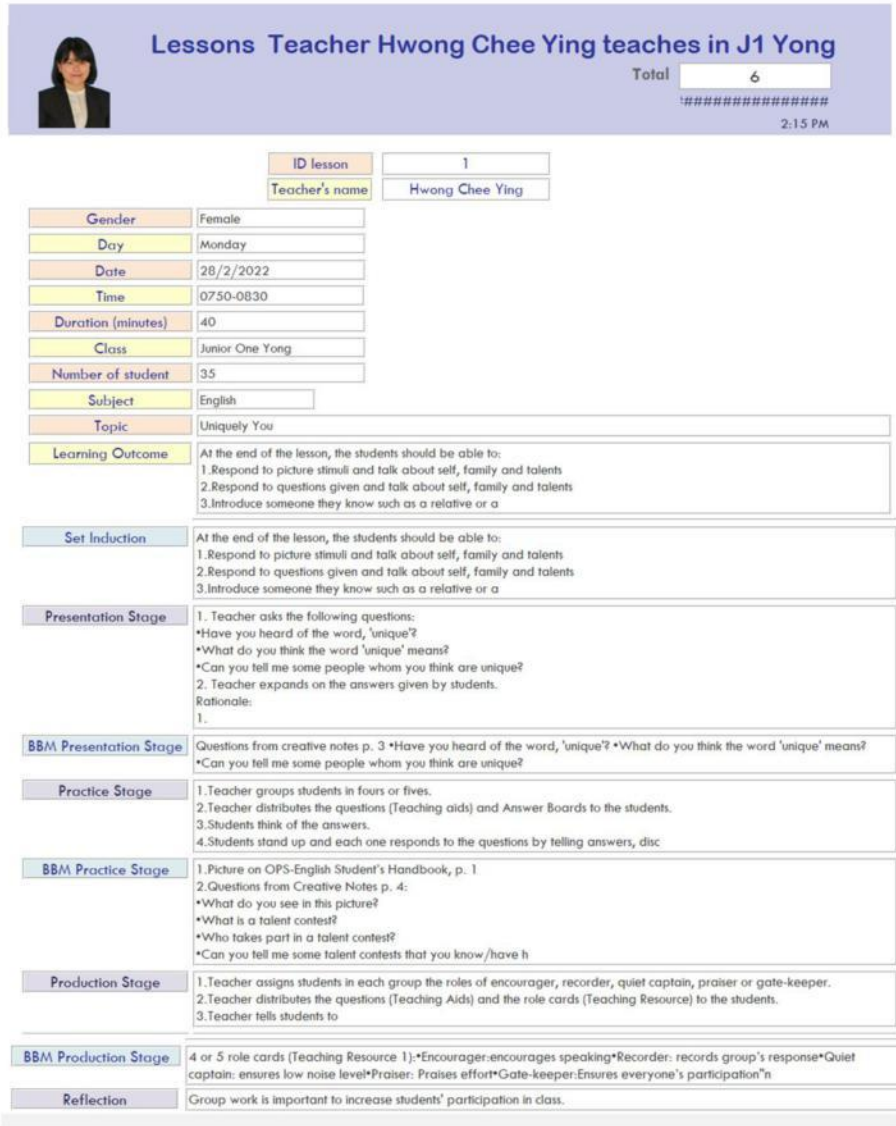



**Figure 2:** Form for keying in data for the lesson plan

All the five subjects agreed that the input form of the system is easy to use. However, they admitted that a huge amount of data is needed to be inputted into the system. Subject 3 commented "We are already burdened with so much of administrative work besides teaching; it's difficult to find extra time for this job". The 5th responded said this: "If the MOE really needs to implement this system data assistant is needed". The 1st subject however was more accommodating and commented "Although more time is needed to key in each lesson plan but the outputs can be everlasting before it can be stored for future references". The teachers said

they to plan the needed data (resources) much earlier before the data input session. For each lesson plan, if data is readily available to the teachers, an estimate of 15 minutes is needed to complete all the fields. Therefore, the researcher agreed with the subjects that data input for the system is very time consuming.

Figure 3 shows a sample lesson generated by the system. The lesson belonged to one of the subjects (Subject 5) whose name is "Teacher Hwong".



Lessons Teacher Hwong Chee Ying teaches in J1 Yong

Total 6

2:15 PM

| | |
|---|---|
| ID lesson | 1 |
| Teacher's name | Hwong Chee Ying |
| Gender | Female |
| Day | Monday |
| Date | 28/2/2022 |
| Time | 0750-0830 |
| Duration (minutes) | 40 |
| Class | Junior One Yong |
| Number of student | 35 |
| Subject | English |
| Topic | Uniquely You |
| Learning Outcome | At the end of the lesson, the students should be able to:<br>1.Respond to picture stimuli and talk about self, family and talents<br>2.Respond to questions given and talk about self, family and talents<br>3.Introduce someone they know such as a relative or a |
| Set Induction | At the end of the lesson, the students should be able to:<br>1.Respond to picture stimuli and talk about self, family and talents<br>2.Respond to questions given and talk about self, family and talents<br>3.Introduce someone they know such as a relative or a |
| Presentation Stage | 1. Teacher asks the following questions:<br>•Have you heard of the word, 'unique'?<br>•What do you think the word 'unique' means?<br>•Can you tell me some people whom you think are unique?<br>2. Teacher expands on the answers given by students.<br>Rationale:<br>1. |
| BBM Presentation Stage | Questions from creative notes p. 3 •Have you heard of the word, 'unique'? •What do you think the word 'unique' means? •Can you tell me some people whom you think are unique? |
| Practice Stage | 1.Teacher groups students in fours or fives.<br>2.Teacher distributes the questions (Teaching aids) and Answer Boards to the students.<br>3.Students think of the answers.<br>4.Students stand up and each one responds to the questions by telling answers, disc |
| BBM Practice Stage | 1.Picture on OPS-English Student's Handbook, p. 1<br>2.Questions from Creative Notes p. 4:<br>•What do you see in this picture?<br>•What is a talent contest?<br>•Who takes part in a talent contest?<br>•Can you tell me some talent contests that you know/have h |
| Production Stage | 1.Teacher assigns students in each group the roles of encourager, recorder, quiet captain, praiser or gate-keeper.<br>2.Teacher distributes the questions (Teaching Aids) and the role cards (Teaching Resource) to the students.<br>3.Teacher tells students to |
| BBM Production Stage | 4 or 5 role cards (Teaching Resource 1):•Encourager:encourages speaking•Recorder: records group's response•Quiet captain: ensures low noise level•Praiser: Praises effort•Gate-keeper:Ensures everyone's participation"n |
| Reflection | Group work is important to increase students' participation in class. |

**Figure 3:** Sample lesson plan generated by the system

All the subjects were satisfied that the system was able to generate the lesson plans after keying in all the data. They were also delighted to know that the system allows each lesson plan to be printed. They commented this will help them fulfil the lesson plan responsibility required for each teacher that is enforced by MOE.

The system is also able to provide other functionalities such as sorting lesson plan by date, time or teachers as well as printing reports. For example, the system is able to display the number of lesson plans for teachers according to specific time or date. Figure 4 shows an

example of the sorting functionality of system. The result showed that between 1st of March and 3rd of March 2022, there were 11 lesson plans recorded in the system.

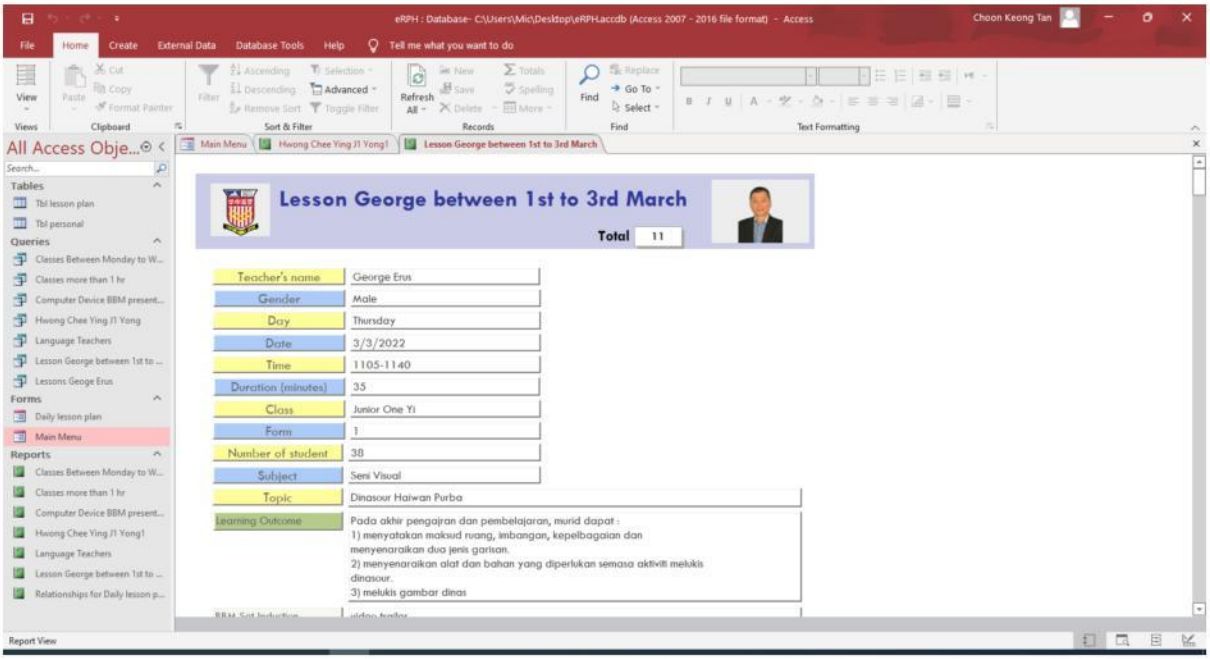



**Figure 4:** Lesson plans sorted according to date by the system

Another example of sorting in term of teachers by the system is for example by subject teachers. Figure 5 shows the result of the sort according to subject teachers; for example language teachers. It showed there were 30 lesson plans recorded by the system for language teachers of Junior 1 classes.

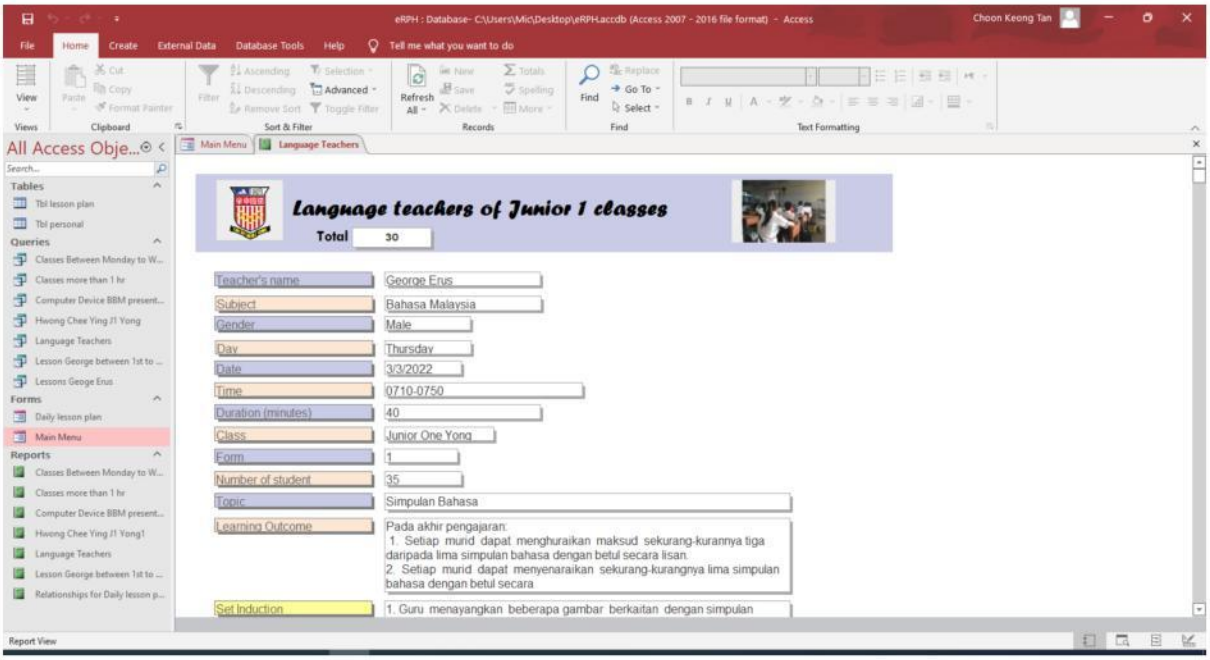



**Figure 5:** Lesson plans sorted by the system according to subject teachers

Generally, all the subjects' satisfaction on with the functionalities of the system were good. This finding is in agreement with other researchers (Shroff et al., 2011; Zacharis, 2012). These researchers stated that good quality system will enhance users' readiness to use the system. In addition, all subjects commended that the system was smooth sailing without much technical error. For example, each output with a click of a button took less than 3 seconds to generate an output. It can be considered as almost "immediate response". Every subject responded with "thumb up" as far as functionalities of the system is concerned.

Research question 3: Challenges of the system
For the last research questions, the subjects were asked "What are the challenges while using the system?". The subjects' answers and feedbacks were analysed and showed in Table 3.

**Table 3:** Challenges and solutions for system

| No. | **Challenges** | **Solution** |
|---|---|---|
| 1 | Subject 1 and 3 complained that "Two forms are used to key in data for the lesson plan. Can they be combined?". They also commented that too many textboxes were used. | The researcher managed to combine the two forms into a single form utilising the "database relationship feature" and thus reduce the number of textboxes by 30%. |
| 2 | Subject 5 complained that the offline version (this present version) is less user-friendly because results from the database of each individual computer need to be re-combined back into a single DB. | No action was taken because it had been stated earlier that due to insufficient funding to this grant the online version could not be developed. |
| 3 | Subject 1 and 2 complained the main menu of the system of lacking in term of creativity. | The researcher will redesign the main menu to include UMS logo, school logo, related graphics, etc. |
| 4 | Subject 3, 4 and 5 voiced concern about database security issue as there is no password required. | The researcher will reprogram the system to include password for entering the system. |
| 5 | Subject 5 was worried if many schools are involved in the project later on, the database will not be able to cope with the amount of data. | The researcher responded that no action will be taken due to insufficient funding and unable to use corporate DB. As a result, the decision to continue with MS Access DB will be retained until the limitation is reached. Estimation: MS Access is able to accommodate2000 users only (educational licence). |
| 6 | Subject 2 voiced out copyright issue. Who owns the copyright? The user or UMS? She said many users will refuse to provide data due to this problem. | The researcher's response was there is no solution in sight. As this is an UMS research, UMS retains the copyright to all the data therefore there is no action taken for this complaint. |

Basically, all the inputted data was triangulated with the outputs of lesson plans. The teachers (subjects) were satisfied that they were able to witness the output of the respective lesson plan. The teachers were also happy that each lesson plan was outputted in a form of

printable version. To them, this is most satisfying.

In conclusion, the researcher is satisfied with the outcomes of the test-run of the prototype lesson plan generator. After reviewing all the feedbacks, the system was evaluated and corrected to the best the researcher can accommodate. According to Wilfred (2016), if a system did not do maintenance, in the end users' satisfaction and perceptions on the system will be affected. However, this system maintenance is a real challenge because the fund of this project is small.

## CONCLUSION

Based on the findings gleaned from the subjects' feedback in this research, it is now proven that the prototype lesson plan generator is useful and has huge potential in helping the users in digital lesson plan creation. All of them were happy and hope for the continuation of the system to be implemented in more schools to gauge its usefulness.

All the findings proved the prototype system can be maintained as a reliable system for teachers to generate lesson plans. As Pena-Ayala et al. (2014) mentioned, a system that is fully supported by users must be upgraded to maintain its good quality to ensure its long run and usability. Therefore, the researcher would like to recommend this system to be used widely by schoolteachers. Due to its limitations regarding the scale of the system which is offline mode, the researcher recommends further study and improvement to the system. The university (UMS) must embark on a new project to upgrade this system to the online version to maintain its visibility and usability. This will enable more teachers from Sabah and the whole of Malaysia to enjoy using the system.

## REFERENCES


Ahmad Sugianto (2020). International Journal of English Education and Linguistics (IJoEEL), (2)(2).

Bialik, M. & Fadel, C. (2015). Skills for the 21st century: what should students learn?. Boston: Center for Curriculum Redesign.

Bomar, S. (2014). Lesson Planning in the Digital Age. Computer Science and Engineering, 17(1).

Gravetter, F.J. & Wallnau, L.B. (2015). Statistics for Behavioural Science (10th Edition). Belmont, Calif: Cengage Learning.

Ozdamli, F., Uzunboylu, H. (2014), M-learning and perceptions of students and teachers in secondary schools. British Journal of Educational Technology, 44(5), 695-715.

Richards, J. C. & Bohlke, D.(2011). Creating Effective Language Lessons. Cambridge: Cambridge University Press

Pena-Ayala, A., Sossa, H., Mendez, I. (2014), Activity theory as a framework for building adaptive e-learning systems: A case to provide empirical evidence. Computers in Human Behavior, 30, 131-145

Shaughnessy, J., Zechmeister, E., Jeanne, Z. (2011), Research Methods in Psychology (9th Editon). New York, NY: McGraw Hill. p161-175

Shen, Jianping, Poppink, Sue, Cui, Yunhuo & Fan, Guorui (2007). Lesson Planning: A Practice of Professional Responsibility and Development. Educational Horizons. 85(4), pp. 248-258.

Shroff, R.H., Deneen, C.C., Eugenia, M.W.N. (2011), Analysis of the technology acceptance model in examining students' behavioural intention to use an e-portfolio system. Australasian Journal of Education Technology, 27(4), 600-618

Su, Z., Qin, H., & Huang, T. (2005). The Isolated Teacher: What We Can Learn from the Chinese. Wingspread Journal, 7-13.
Wilfred, D. (2016), The Implementation of Thematic Digital Video Learning (MPTVD) Model in E- Learning According Technology Acceptance Model (TAM) in Tuaran District, Sabah, Malaysia. Unpublished Ph.D. Thesis. Malaysia: Universiti Malaysia Sabah
Zacharis, N.Z. (2012), Predicting college students's acceptance of podcasting as a learning tool. Interactive Technology and Smart Education, 9(3), 171-183

# IMPROVE STUDENTS' ENGLISH VOCABULARY WITH THE MEMRISE MOBILE APPLICATION

Tran Ngoc Quyen Quyen
Faculty of English, University of Foreign Language Studies,
The University of Danang, Vietnam
tnqquyen@ufl.udn.vn

## ABSTRACT

Growing your vocabulary is one of the most important keys to learning English because vocabulary is the foundation of learning English. Thanks to the Internet, students have many opportunities to use online tools to apply advanced skills and expand their vocabulary. Recently, with the proliferation of devices, the possibility of Mobile Assisted Language Learning (MALL) is being considered. This research is based on Mnemonics, a vocabulary building application. The authors also investigated changes in the vocabulary levels of English learners in foreign language schools and their attitudes towards using the mobile app to improve their vocabulary. Additionally, our research shows how students rate the quality of their apps. Furthermore, the article provides specific advice on using her Memrise for students with different levels of English.

**Keywords:** Vocabulary, mobile applications, Memrise, MALL, suggestions

## INTRODUCTION

English is the most important foreign language in Vietnam and teaching English is a compulsory subject (Goh and Nguyen, 200). Vocabulary is undoubtedly one of the most important factors for any degree of mastery of a foreign language, especially English. Furthermore, vocabulary plays an important role in the expression and reception of language. As the famous linguist said: "Without grammar, nothing can be taught; without vocabulary, nothing can be taught." When learning a foreign language, vocabulary is taken into account, which is a small part of the common potential of using this language. an element. Therefore, college students have to spend a lot of time learning vocabulary and researching by paraphrasing various knowledge, especially on the Internet. However, laptops and computer systems can be prohibitively expensive for most students, especially those who are away from home. Recently, with the popularization of mobile devices, the possibility of Mobile Assisted Language Learning (MALL) has been discussed. In addition to computers, mobile devices have emerged as potential tools for enhancing language acquisition. With the rapid development of a new generation of mobile devices such as mobile phones and tablets, the potential of mobile devices as effective language learning tools is enormous. (Gold, 2011). As the most popular learning software, Memrise is the best solution for learning English vocabulary. This research focuses on how mobile applications can be used in foreign language schools to effectively increase the vocabulary of English learners.

## LITERATURE REVIEW

### Vocabulary Acquisition

Several researchers have pointed to the importance of vocabulary in language learning (Harris,

1969; Evans, 1978; Pouwells, 1992; Bismonte, Foley and Petty, 1994; Pellow, 1995; Watts and Bucknam, 1996; Laufer , 1996). However, little attention has been paid to vocabulary construction (Cates and Swafar, 1979; Prince 1996). Vocabulary plays an important role in the development of the four language skills of speaking, listening, reading and writing (Harris, 1969; Siribodhi, 1995). Evans (1978) states that vocabulary provides intelligibility and allows speakers to change their way of speaking. Evans explains that using the wrong wording can be misleading. Conversely, correct use of vocabulary makes it easier to read, write, communicate, and speak well. In language learning, vocabulary affects most ability such as reading, writing, speaking, listening, discussion, conversation and oral communication such as language preparation. It also plays a very important role in our continuous development and improvement. One of the challenges most teachers face is providing an environment in which new vocabulary can be taught. In addition, Trump, Trechter, and Holisky (1992) argue that introducing and teaching vocabulary through concepts and word domains leads to a range of activities that engage students with different learning styles. different sentences.

**CALL, MALL and Mobile Applications**

Computer-assisted language learning (CALL) is one of the earliest computer-based language learning techniques. Vandewaeterea & Desmet (2009) point out that foreign and second language learning can be greatly improved with the emergence of he CALL CALL as the oldest technique applied to learning any language.

MALL is also known as Mobile-Assisted Language Learning (MALL). Many theories about education have been put forward today, but almost all theories state that learning usually takes place in classrooms with trained teachers (Sharples et al. 1). Some educators believe they have created a theoretical explanation for learning outside the classroom (Sharples et al. 1). In the 1960s, laboratories were replaced by computer-based practice instruction, followed by computer-assisted language learning (CALL) and the Internet in the early 1960s. The 1990s saw the development of computer communications (Chinnery, 2006).

Previously, educators defined e-learning as learning supported by "electronic" digital tools and media, whereas Keegan defined e-learning or e-learning as the electronic delivery of education and training. . We have a proven track record of research in teaching and learning English that reflects the adoption of technology to support English learning. The focus is on computer-assisted language learning (CALL) and mobile-assisted language learning (MALL).

According to the Mobile Markup Association (2008), mobile applications, commonly called apps, run on mobile devices such as smartphones and tablets. In this study, we will develop mobile applications through mobile phones to facilitate educational activities through mobile applications. According to Sharples, Taylor, and Vavoula (2005), the word 'learning' implies the mobility of learning anytime, anywhere. Therefore, the generic term "mobile learning" refers to a learning process that occurs all the time, regardless of time and place. Learning on mobile devices or mobile learning means that you can learn anytime, anywhere. Students are constantly on the move and learning can take place outside the classroom (Nordin, Amin & Yunus, 2010).

Memrise Software in Vocabulary Learning

There are two main reasons to choose this app. First, it provides users with a variety of topics and lessons to improve students' vocabulary. Below is the mobile version of the famous web tool Memrise. Additionally, the program won the Best App Award at the 2017 Google Play Awards. This ensures the reliability of the program.

This app is available for download from the Google Play Store and Apple App Store. It provides users with a series of lessons covering various vocabulary topics. All lessons include spelling, meaning and pronunciation in your native language. In this app you can speak Arabic,

Ancient Greek, Chinese, English, French, German, Icelandic, Italian, Japanese, Klingon, Korean, Latin, Portuguese, Russian, Spanish I can. You can learn Chinese, Swahili, Swedish, Turkish and more. However, in this study, researchers focused only on learning English. The app uses audio, visual, and mnemonic techniques to help students associate words and easily recall them. Quizzes are also used to ensure users remember these concepts.

Memrise is based on a frame of scientific knowledge about how we learn and use our scientific minds to help you learn faster. Memrise uses the concept of "writing complex code" to help users remember course content. According to Memrise, when users learn a new word, they think of it as a memory seed. And each time you revisit that memory, you help it grow bit by bit, like watering a flower. Memory is the most sensitive and needs the most love and attention when a user first learns a new word. That's why Memrise looked at them early on and reminded them regularly to ensure the words were safely planted in their brains. Science shows that many early exercises and tests have a very positive effect on the health of long-term memory, so Memrise suggests that he takes six tests to complete the development of a new memory. We ensured that we had to succeed. The word counts as already in Long Term Memory.

Once the words are absolutely developed and in your long-term memory garden, you won't have to pay as much attention to them as you did when you started. Repetitive recall of words in her carefully calibrated Memrise test refreshes and strengthens the memory so that it stays healthy forever, allowing users to know what they have learned intelligently in the shortest amount of time.

Memrise uses adaptive spatial repetition learning techniques to help students focus on the words they need to learn. When users start learning, students see, hear, and recognize most of the linguistic elements in sentences. Students answer multiple choice questions and finally start writing in the language the user is learning.

New items are being introduced and maintained all the time. Memrise also uses the Mems system to help users remember elements of language by associating words with pictures, videos, model sentences, and more. It is designed to stimulate the senses, imagination and emotion to make learning more enjoyable and effective.

Learners study words many times in the early stages of learning and move them regularly to retain them in long-term memory. Users can easily see their progress as the Seed Her icon grows in the corner of each item and eventually blossoms as the learner masters the word.

Therefore, the following questions were used to guide this study:

i. How can students learn English vocabulary effectively?
ii. How does Memrise affect students' vocabulary learning?
iii. What problems and challenges do students face when learning with Memrise?
iv. Any suggestions on how to solve the problems students encounter when learning English vocabulary, especially when using the Memrise app?

## METHODOLOGY

The method chosen for this study is a case study that allows experimental investigations to gain a deeper understanding of real phenomena (Yin, 2009). Case studies are the most widely used qualitative research design, allowing researchers to learn more about their subject (Merriam, 2009). We will verify this issue experimentally. Using this approach, researchers consciously monitor conditions that trigger important events, propose interventions, and measure the difference they make (Cohen, Manion, & Morrison, 2013). This experiment is based on a combination of quantitative research methods, observations, and interviews. This research experience will be conducted both online and offline for students of the University of Da Nang,

Faculty of Foreign Studies, English Language Institute. All of these can be viewed as nested building blocks of analysis or design (various units of analysis) (Yin, 2009). This approach helps us better understand the improvements her Memrise has made to enhance students' English vocabulary learning. Therefore, the results of this study are applicable to other schools in similar situations (Cohen et al., 2011).

The subjects of this study are 200 student volunteers studying in the English department of the University of Foreign Studies, Danang University. These 200 of her students were randomized into her two groups, a control group and an experimental group, to process the results. All eligible college students have a similar educational background. This is a testament to self-regulation in English learning. Prior to testing, these participants were asked to answer a series of questions about how they learned English to ensure that all participants had mastered English through self-study.

Data collection was divided into two phases: pre-memrise and post-memrise. People in the experimental group received experimental treatment with Memrise for six months, while the control group did not. Using this technique, the authors believe that memory improves student performance. You can easily see the effect. In both phases, data were collected by distributing questionnaires immediately before and after use. The name, purpose, and usage of the tool are documented in the manual.

**Table 1:** Experiment method design (Pre-test Post-test Design)

| | | | | |
|---|---|---|---|---|
| Random Assignment | Control group | Pretest | No Treatment | Posttest |
| Random Assignment | Experimental Group | Pretest | Experimental Treatment | Posttest |

The traditional design used in this study included tests, questionnaires and direct measurements. The data required for this study are preliminary. Baseline data is training data collected through pre- and post-testing with Memrise. Data were collected using direct-measured vocabulary tests and questionnaires were used for all student participants in either the experimental or control groups.

A pre-use questionnaire included personal information, students' vocabulary learning methods, and students' attitudes toward independent vocabulary using mobile vocabulary learning apps. Six months later, a post-use survey was conducted to learn about students' impressions of Memrise, their self-learning vocabulary in the mobile app, their evaluation of the tool, and their use of the web to acquire attitude skills.

In addition to the test, two vocabulary tests are created and used to assess students. The consists of two subsections, pre-use tests and post-use tests. These tests are called vocabulary tests and are designed by experts. Paul Nation - Emeritus Professor of Applied Linguistics, Linguistics and Applied Linguistics (LALS), Victoria University, Wellington, New Zealand. This test measures written word form, form-meaning relationships, and, to a lesser extent, conceptual knowledge. Although the words being tested are presented in a context-independent context in the test, these tests primarily measure context-independent knowledge of the word. These tests only measure vocabulary knowledge, not the vocabulary used. With this in mind, this study used vocabulary tests and quizzes to assess students' progress in vocabulary learning.

## FINDINGS

The results of this study were classified according to the following criteria: a pre-use questionnaire, a post-use questionnaire and a two-stage vocabulary test. The results will be discussed in detail below.

### Survey results before the experiment

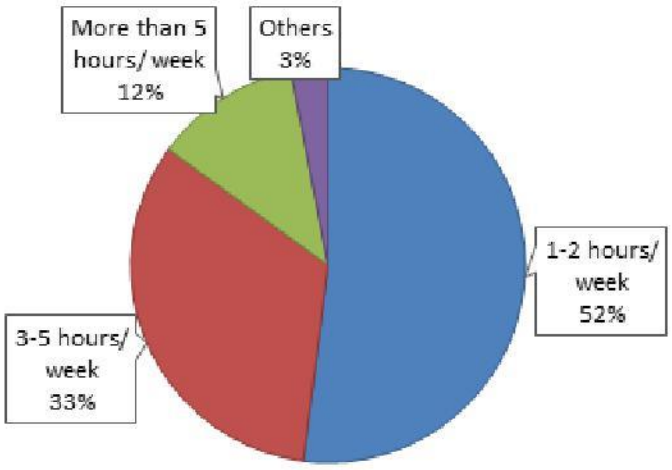



**Figure 1**: Self-study time for first-stage students

The data showed that 52% of the participants (10 students) spent 1-2 hours a week improving their vocabulary. While 33% (66 students) required 3 to 5 hours per week, only 12% (2 students) spent more than 5 hours per week on self-study skills. Finally, 3% of the participants (6 students) indicated that their exercise time varies due to certain factors.

To explore students' attitudes toward learning English using mobile-her technology, researchers asked if they had ever used the mobile-her application to improve their English or vocabulary . The majority of respondents (85%) said they used mobile girlfriend apps to improve their English skills and vocabulary, while the remaining 15% said they did not.

**Table 2**: List of cellular applications utilized by students

| Online Application Name | Percentage |
|---|---|
| Quizlet | 12% |
| Dictionary (in general) | 40% |

| | |
|---|---|
| Games (in general) | 7.1% |
| Scribd | 12.7% |
| Coursera | 6% |
| Duolingo | 14.3% |
| Jonny Grammar's word Challenge | 4.9% |
| Others | 3% |

In addition, this study looked at why 19 college students had no prior online application experience and gave several reasons. It can be seen that almost half of the students (2.1%) said that they do not know which online application is suitable and useful for learning English. 21% of students say they don't have enough time to explore mobile apps. Meanwhile, 10% of college students hate mobile apps because they don't know how to use them properly. Also, 16.9% of students have practiced their skills through other methods, so they don't think using a mobile app is necessary. Other students admitted that these mobile apps weren't interesting, so they didn't want to try them. The final reason cited by 5% of students is that online applications require users to pay high fees. The results help predict potential factors that prevent students from successfully using mobile apps.

The study also highlights students' attitudes towards the use of mobile applications in the pre-use period. First, most students have a positive attitude towards learning with mobile apps, with 17.5% agreeing and 5% strongly agreeing that using mobile apps is an effective way to improve learning. improve vocabulary. The number of students objecting was 14.5%. In addition, 12% of students strongly oppose and 23.5% oppose not using mobile applications to learn English vocabulary. However, it has a contrast ratio of 21.5%. When asked if mobile apps inspire students to work harder, 3% agree and strongly agree. This number is much higher than the percentage of dissenters (19.5%).

Prior to using Memrise as a mobile app, more than half (55.5%) of respondents felt that using the mobile app for vocabulary learning required a high level of understanding on mobile devices, while nearly a quarter of them reject this idea. 35.5% have a negative view of mobile apps because they think it takes too long to learn vocabulary with mobile apps, while 2% disagree.

## Survey results before the experiment

Participants were divided into two groups, an experimental group and a control group. This data was collected from the experimental group after her six months of using Memrise. The post-use survey data also quantified her four major factors: the student's first impression of Memrise, the student's self-study vocabulary using Memrise, and the student's attitude towards Memrise as a mobile after the use.

**Table 3**: Students' first impressions of the introduction of the Memrise

| Type of Impression | Percentage |
|---|---|
| A good tool for learning English | 48% |
| New, need to understand | 33% |
| Difficult to use | 11% |
| Too complex | 3% |
| Others | 5% |

We can see that the highest proportion (48%) is due to the impression that mnemonics are a useful tool for learning English. After that, 33% of her students thought her Memrise was new and should be recognized. Other prints are just a few. Specifically, 11% of students said the app was difficult to use. Only 3 students (3%) said the program was too complicated, and 5% of the participants had different impressions of the program. From this result, we can conclude that Memrise made a positive impression on the majority of the students who participated in the survey.

A survey by Memrise found that 8% of her students use her Memrise for 8-10 hours a week to practice vocabulary. Most students (46%) use Memrise 1-3 hours a week to learn vocabulary. Most students use the mobile app to practice 4-7 hours a week, or 30%. Note that many students (13%) use the app for less than 1 hour per week to support vocabulary learning. However, it is easy to see that Memrise as a mobile app attracted 100% of participants.

Memrise's launch attracted 100 different users and received various quality ratings. Figure 2 shows how students rated the software on a scale from very good to very bad.

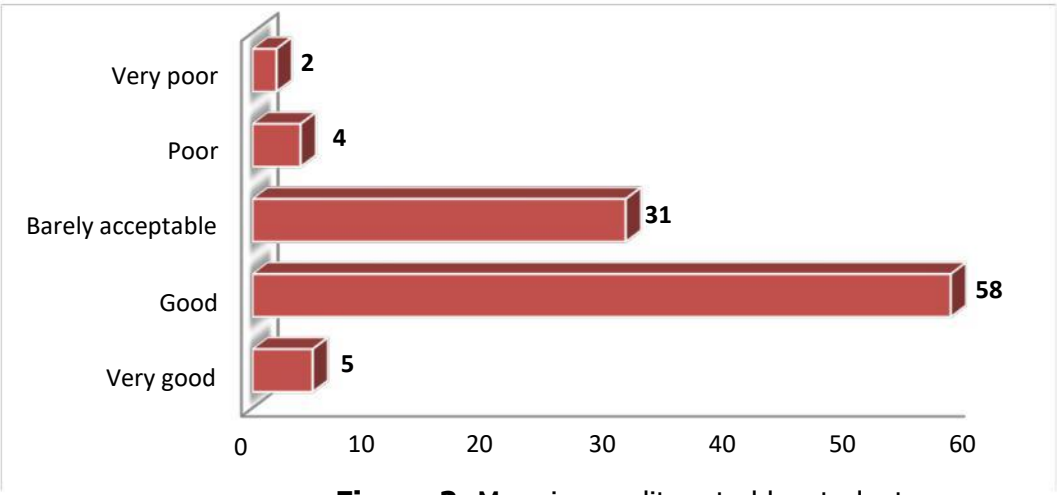



**Figure 2**: Memrise quality rated by students

To find an explanation for Quality Score, researchers continuously asked student about the experience with Memrise. The following table compares the duration of vocabulary's self-study between the first stage and the second stage.

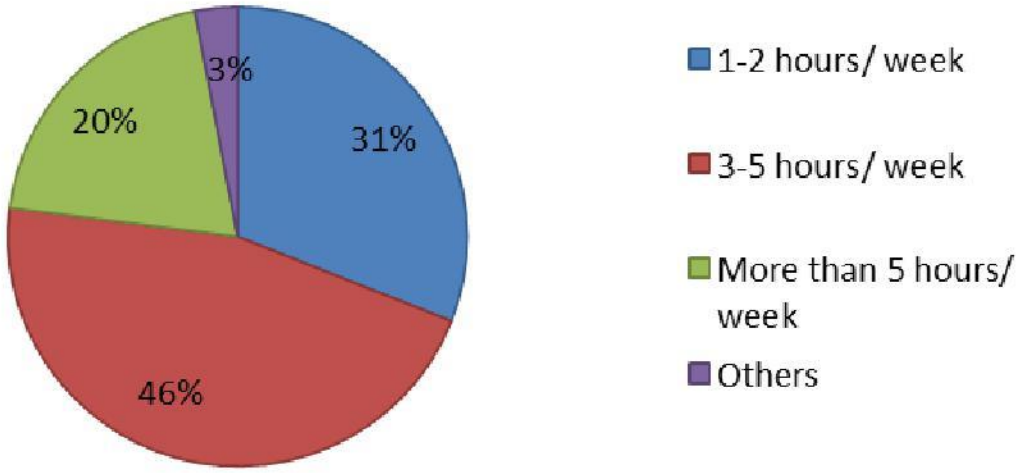



**Figure 3**: Total time for vocabulary self-study for students at the second stage

According to Figure 3, there is a large change in the duration of the first period and the second period. The number of students studying vocabulary 1-2 hours per week decreased from 52 (52%) to 31 (31%). The percentage of students practicing a skill for more than 5 hours increased significantly from 33 students to her 46 students. The number of students studying vocabulary 3-5 hours per week increased from 12% to 20%. Her other three students were less clear about their self-study hours.

Designed to assess student vocabulary, the two vocabulary tests consist of two subtests (a pretest and a posttest). These tests, called vocabulary size tests, were developed by Professor Paul Nation, Emeritus Professor of Applied Linguistics, Department of Linguistics and Applied Linguistics (LALS), University of Victoria, Wellington, New Zealand (Nation, P. and Crabbe, D. (1991)). Participants in both the control and experimental groups should have the dictionary prior to use. After 6 months, the experimental group required post-use vocabulary.

There is a significantly improvement level of vocabulary of students that is shown in the Figure 4 below.

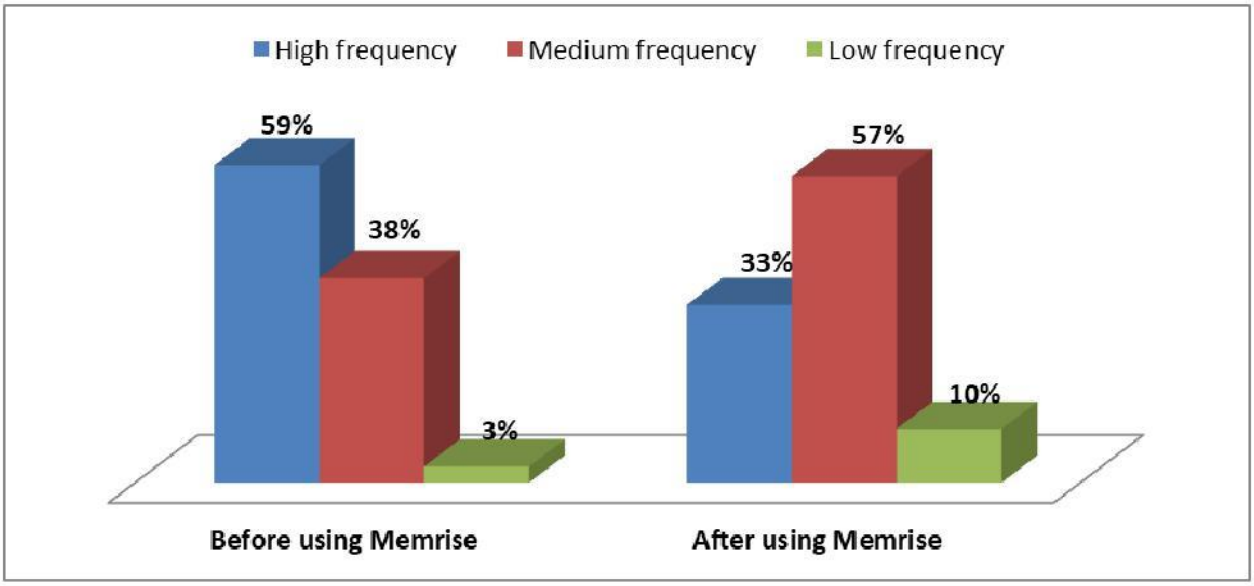



**Figure 4**: Comparison of students' vocabulary level before using Memrise

Results showed an increase in the number of students who spent 3-5 hours per week practicing vocabulary, as shown in Figure 4. The number of students spending more than 5 hours increased from 6% to 53%, he increased from 12% to 20%. Therefore, we can conclude that Memrise encourages students to spend more time studying. 66% of students agree that Memrise motivates them to learn.

**Factors Affecting Effectiveness of Vocabulary Learning with Memrise**

The purpose of this part is to answer the research question: What are the factors that influence the effectiveness of students using the Memrise mobile application to improve their vocabulary?

There were two main factors affecting effectiveness of vocabulary learning with Memrise. Firstly, the inefficiency in using the Memrise mobile application is due to student negative attitudes. Most students have a positive impression of her Memrise, but B. "Memrise is a useful software for learning English" or "Memrise is a must-have". It is undeniable that a minority of students are against applying. They think Memrise is too difficult or too complicated. This impression indicates that students do not want to use mobile applications. When asked to describe its use, students were not as effective as other sources, even though they had tried it before.In addition, they also have the prejudice that Memrise is not attractive. 70% of these students scored low on the second vocabulary test. In addition,25% of students with the second lowest score on the vocabulary test do not believe in the usefulness or necessity of using mobile phone apps.

Secondly, frequency of software usage is also a factor in Memrise's effectiveness. The study found that only 8% of students practiced Memrise eight to 10 hours a week, and eight of those students performed much better on their second test than on the first. I have it. The majority of students (49%) only use the app for 1-3 hours per week. These students account for 38% of students who do slightly better on the second test and 30% of those who do not.13% of the students practiced the program for less than one hour a week, and 70% of the students with the lowest scores on the second exam belonged to this group. Researchers, therefore, believe that the more students practice with the software, the more effective it will be.

Application inefficiencies can also be due to the limitations of the application itself. His 38% of users complained that the app always required internet access, which is a downside. Another big limitation is the functionality of Memrise. Some features are only available to the Pro members. A user has to pay VND 349,000 ($20) to become a Pro member and enjoy all Memrise features. However, these issues still exist in most mobile apps today.

## DISCUSSIONS AND CONCLUSION

In the previous section, we have clearly described some of the problems and challenges that teachers face. The results of this case study show promising evidence that Memrise is making a significant contribution to improving students' vocabulary. Students also explained that Memrise completed all stages of vocabulary learning that were not possible with the traditional methods they started with. Students should therefore use her Memrise and other similar mobile her apps to improve their vocabulary and general skills.

From the search results, we can conclude that Memrise is very helpful for English learners, especially vocabulary learning. However, most Vietnamese students who have studied English for at least 9 years do not have a good command of the language, mainly because they do not have enough vocabulary to support their language skills. Memrise is a good choice. Students can use this application, which is currently very popular in Vietnam, directly on their mobile devices to improve their English without restrictions on course materials, time levels, locations and especially vocabulary. Memrise's special properties also allow students to learn vocabulary at home. Meanwhile, Memrise can also make self-regulatory courses more accessible to students (Kramarsky & Guttman, 2006).

In addition, mobile learning is a potential way to learn languages due to the flexibility of mobile devices, which can be used anytime and anywhere. Thanks to today`s advanced technology, students can easily access Internet resources through mobile devices without the need for laptops or expensive computers. With the development of mobile technology, many language learning apps have been created. However, during studies at the Faculty of Foreign Languages of Da Nang University, most students use digital dictionaries only on their mobile devices, instead of using the full potential of their mobile devices with many other useful applications such as Memrise.

Memrise is a mobile app for improving students' vocabulary, and our research and tests prove it. After getting to know the app better, the students realized that they didn't need advanced mobile skates to learn vocabulary with Memrise, as they spent a lot of time. Most students find Memrise to be an effective way to learn and practice vocabulary, but whether this method outperforms traditional methods remains to be seen.

Regarding the ineffectiveness of using Memrise, the researcher found that it was caused by a number of factors. First, some students are not able to improve their vocabulary due to their negative attitude towards this app. Then, their software usage frequency and limited mobile skills are also contributing factors. Furthermore, there are also application limitations.

To use mobile software effectively, students must have a great attitude towards the software. They must be excited to use these programs. They should be careful to use the machine to try to make real bets and not lose interest again after having a problem. More practical judgment should be exercised when attempting to use a program in parts. Second, we learned that researchers often want to train Memrise as a cellular program. The more they train, the less difficult it is to use the equipment and the more rigid the program. Also, if students play sports, it also helps improve their cell usage skills. They can search the internet for some opinions about

the software and find out so they won't be overwhelmed in the first place. Another way is that they can make friends with different customers and ask them for helpful advice.

But convincing students to use the latest technology in their studies is no easy task. Therefore, teachers should encourage students to use their mobile apps. Teachers can try Memrise as their own mobile app and mentor students in class. Teacher appreciation is more believable and persuasive because students always trust the teacher's skills and experience. Teachers can also use the app to assign homework to students.

## REFERENCES


Amry, Aicha Blehch (2014). The impact of WhatsApp mobile social learning on the achievement and attitudes of female students compared with face to face learning in the classroom.

Antieau, Lamont (2009) in David Crystal (2009). Language and the Internet, pp. 350-353.

Bismonte, Asuncion R., Christy L. Foley, & James A. Petty (1994). Effectiveness of the possible sentences vocabulary strategy with middle school students in Guam, Reading improvement, 31(4), pp. 194.

Broughton & Geoffrey (2002). Teaching English as a foreign language. Routledge, 2002.

Carnes, C. (2004). Utilizing NETS*A - A framework to lead ICT change within a primary school. Paper presented at Reef, Beef and Bytes, QSITE 2004 Conference, Yeppoon, September.

Carter, Ronald, & Michael McCarthy (2014). Vocabulary and language teaching. Routledge.

Chinnery, George M. (2006). Going to the MALL: Mobile assisted language learning. Language learning & technology, 10(1), pp. 9-16.

Godwin-Jones, Robert. (2011). Mobile apps for language learning. Language learning and Technology. 15(2), pp. 2-11.

Godwin-Jones, Robert (2008). Mobile-computing trends: lighter, faster, smarter. Language Learning and Technology, 12(3), pp. 3-9.

Merriam, Sharan B., & Elizabeth J. Tisdell (2015). Qualitative research: A guide to design and implementation. John Wiley & Sons.

Mooney, Annabelle, & Betsy Evans (2018). Language, society and power: An introduction. Routledge.

Nation, Paul, & Crabbe David (2013). A Survival Language Learning Syllabus for Foreign Travel1: Case Studies in Language Curriculum Design. Routledge, pp. 8-20.

Nhu, Pham Thi To, Tan Choon Keong, & Lee Kean Wah. Exploring teaching English using ICT in Vietnam: The lens of activity theory. International Journal of Modern Trends in Social Sciences, 1(3), pp. 15-29.

Nordin, Norazah, Mohamed Amin Embi, & Melor Md Yunus (2010). Mobile learning framework for lifelong learning. Procedia-Social and Behavioral Sciences, 7, pp. 130-138.

Pellow, Randall A. (1995). Thematic Teaching of Vocabulary and Reading Comprehension Through Descriptions of TV Movies. Reading Improvement, 32(3), pp. 130.

Prince, Peter (1996). Second language vocabulary learning: The role of context versus translations as a function of proficiency. The modern language journal, 80(4), pp. 478-493.

Rahimi, Mehrak, & Samaneh Yadollahi (2011). ICT use in EFL classes: A focus on EFL teachers' characteristics. World journal of English language, 1(2), pp. 17.

Richardson, Greer (2012). What more can we do? Analyzing the impact of preservice teacher technology training on subsequent classroom technology integration. Society for information technology & teacher education international conference. Association for the Advancement of Computing in Education (AACE).

Yu, Chong Ho (2009) in Creswell, J., & Plano Clark, V. (2007). Designing and conducting mixed

methods research. Organizational Research Methods, 12(4), pp. 801-804.
Zimmerman, Cheryl Boyd (1997). Do reading and interactive vocabulary instruction make a difference? An empirical study. TESOL quarterly, 31(1), pp. 121-140.

# STUDENTS' EXPERIENCE ON LEARNING ENGLISH ESSAY WRITING WITH TEACHER'S APPLICATION OF ONLINE TOOLS

Luu Quy Khuong
Faculty of English, University of Foreign Language Studies,
University of Danang, Vietnam
lqkhuong@ufl.udn.vn

**ABSTRACT**

Recently, the outbreak of the Covid-19 pandemic which has broadly initiated the rise of digital literacy and teaching has inevitably been taking place on online platform. Converted from the conventional teaching mode to the online mode, both teachers and students certainly faced difficulties, especially in the area of EFL. Teaching and learning English essay writing has always been a challenging task for EFL teachers and learners. This paper aims to examine the non-English major third-year students' experience on learning an English Essay Writing course with teacher's application of online tools at University of Foreign Language Studies-The University of Da Nang (UFLS-UD). 22 Oriental Studies major third-year students attending the course Viet luan tieng Anh-01 DPH (English Essay Writing course-01 DPH) in academic year 2021-2022 were surveyed with questionnaires and in-depth interviews. Data analysis shows that students experienced many difficulties in learning English Essay Writing virtually, among which the most difficult one is "Lacking face-to-face communication in solving group tasks…." Their feedback on the efficiency of the online tools applied in the course was also detected. Some suggestions for improving the quality of teaching and learning English Essay Writing with the help of online tools were also proposed.

**Keyword:** English essay writing, experience, online tools, feedback, virtual

## INTRODUCTION

The industrial revolution version 4.0 has globally influenced and obviously is leading to the digital transformation in all aspects of human life, education included. Recently, the outbreak of the Covid-19 pandemic has broadly initiated the rise of digital literacy and teaching has inevitably been taking place on online platform. Conventional teaching was switched to online mode. Both teachers and students faced, especially in the area of EFL which, in nature, is a process of face-to-face communication. Also, in TEFL it is said teaching writing has always been a challenging task for EFL teachers and learners. Among genres to teach, English essay is thought to be the most challenging. To cope with the online challenge in teaching the English essay the teachers have applied many online tools to enhance students' efficiency for their learning of English essay writing. This study aims at examining the student experience on learning an English Essay Writing course with teacher's application of online tools at University of Foreign Language Studies-The University of Da Nang (UFLS-UD) to find out their difficulties and feedback on the effectiveness of these tools for their learning of the course.

## LITERATURE REVIEW

### Previous studies related to the research topic

Since the outbreak of the Covid-19 pandemic, there have been many studies on the utility of online tools to mitigate the negative impacts of the pandemic on teaching in general, TEFL in particular. However, the research on teaching writing online is not much. Mehlenbacher et al. (2000) highlighted the complexity of effective teaching and the difficulty of making comparisons between the online and the classroom environments. Selvarasu et al. (2021) investigated the use of internet tools such as Knoword, H5P dialogue cards, 'H5P Free Writing Tool, 'Microsoft Teams Assignment" in teaching writing in general at the University of Technology and Applied Sciences (UTAS) in Oman. Nguyen Van Long, Nguyen Nu Thuy Uyen (2021) introduced basic principles and practice of CALL. In this course book they provided some tools applicable to different writing process stages such as Mind Meister, Thesaurus, and Blogs. Unlike the previous studies just mentioned, the current case study focused on the third-year non-English major students' experience on learning English essay writing with the application of online tools like Zalo the breakout room function of the Microsoft Teams platform, Jam board, Padlet, and Paragraph Punch by the teacher at University of Foreign Language Studies - The University of Danang, Vietnam and propose some suggestions to improve the quality of their learning of the course.

## Some background concepts

English essay

At university, students learn various writing genres such as personal letters, business letters, memos, advertisements, instructions, paragraphs and essays. Among which, writing the English essay is thought to be the most challenging task for EFL students because an essay is "a piece of writing several paragraphs long instead of just one or two paragraphs. It is written about one topic, just as a paragraph is. However, the topic of an essay is too complex to discuss in one paragraph. Therefore, you must divide the topic into several paragraphs, one for each major point. Then you must tie all of the separate paragraphs together by adding an introduction and a conclusion." (Oshima, 1998: 100). It has become more problematic when the teaching and learning occurred in the virtual environment.

Virtual environment

Virtual environment is a networked co-working space which allows users to interact with both the computing environment and the work of other users. Email, chat, and web-based document sharing applications are all examples of virtual environments.

Online tools applied to teaching English essay writing: Zalo

Zalo is an OTT service (short for over the top - a term that refers to the data provided on the Internet platform but not a network provider or any other organization can interfere). Like Facebook, Zalo allows users to send messages, call and chat with friends for free everywhere. Especially this application is created by Vietnamese people and developed by Vinagame. In the essay lesson, handouts of tasks designed for students were send to them via the class zalo. Comments to group work were also provided for students through this platform.

Breakout room function of the Microsoft Teams platform

A feature of Microsoft Team meeting room division helps to divide and separate the number of meeting attendees into small groups for private discussion in the meeting. The host has the right to arrange each participant in the meeting or classroom randomly or at will. In the English essay lessons, this application is frequently used whenever the students were asked to work in small groups, for example, to brainstorm for ideas to narrow down a general theme to a specific topic, to generate ideas for the plan of an essay and many other activities in the process of writing. Anyway, according to Harmer, "in language classes teachers and students can take advantage of the presence of others to make writing a cooperative activity, with

great benefits to all those involved." (2001: 260). Breakout room, in fact, is an essential catalyst for the implementation of other online tools in the essay writing class in this case study.

Jam board

Jam board is a web-based online interactive whiteboard tool designed for cross-platform collaboration. It is created in Google Jam board. Users can search for images or drag and drop an image across the screen, add notes and emotion icons. One prominent advantage of Jam board is the sheet is spacious and teachers can add up to 20 pages and share them with students. That is, in principle, 20 small groups can work at the same time although in there are not more than 30 students in a language class at UFLS-UD. This application can be used in all group activities relating to writing English essay thanks to its multi-features such as brainstorming, essay outlining, writing body paragraph, peer correction of essay drafts, etc.

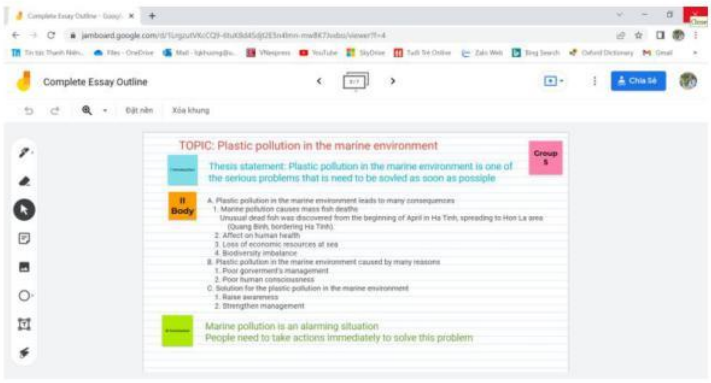



**Figure 1**: An example of applying jam board in writing

Padlet

Padlet is an application that allows users to share and introduce an idea or topic. To put it simply, it is likened to a whiteboard in the classroom. More specifically, Padlet allows users to share media files such as adding videos, images, documents, documents, website links ... on this whiteboard and sharing to classes, groups. Like Jam board, this tool can be usable for demonstrating students' individual or group writing. Also, it allows the teacher correction on the work.

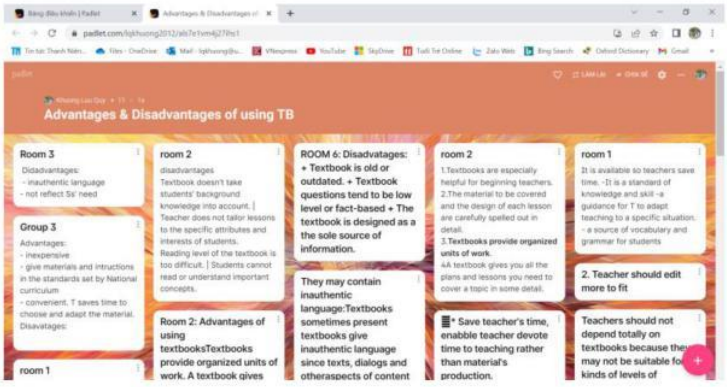



**Figure 2**: An example of applying Padlet in writing

Paragraph punch

Paragraph Punch is an application that can be extensively used for teaching paragraph writing skills. It provides students with writing steps such as pre-writing, writing, organizing, editing, rewriting, and publishing. (Handayani and Handayani, 2020)

## METHOD AND SAMPLING

This study was conducted as a case study and tried to find the answers to two research questions, namely:

1. What are the difficulties students face when learning English essays in the virtual environment?
2. How efficient is the application of the internet tools to your learning of English essays writing course?

The data were collected with a questionnaire designed with the Likert scale and the feedback of the participants would be analyzed to find out the efficiency of the Internet tools used in the English essay lessons from the participants' viewpoints. Besides, to gain more information, in-depth interviews with some informants were implemented. The term during which this course was taught was chiefly implemented online. However, there was one week of offline learning. Thus, the researcher made use of the chance to interview some of the participants randomly chosen. Time of survey was in February 2022.

To get the participants 'opinions on the difficulties they faced when learning English essays virtually and their feedbacks on the efficiency of the teacher's application of the internet tools to teaching English essay writing, a questionnaire was designed in the Google form and the link was sent to the participants for responses. The questionnaire includes 3 parts. The first part is about the general information related to the participants including their gender, and records of their course attendance. The second part related to the students' difficulties in learning English essay writing online consist of 6 questions designed with 5-level Likert scale ranging from "strongly agreed" to "strongly disagreed". The last part including 5 question items focuses on the students' feedbacks on the efficiency of internet tools applied by the teacher in teaching English essays writing online. All the questions in the questionnaire are designed with 5-level Likert scale ranging from "strongly agree" to "strongly disagree." Moreover, a list of 3 questions was utilized to get more information to confirm the data revealed by the analysis of the informants' responses to the questionnaire.

## FINDINGS AND DISCUSSION

### Informants' general information

Gender

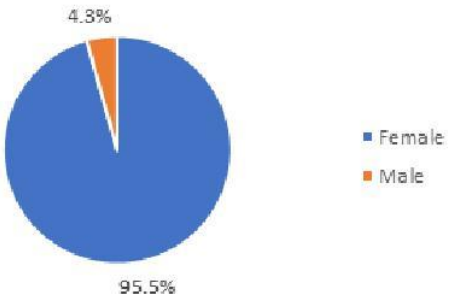



**Figure 3**: Percentage of male and female participants

Figure 1 shows that most of the participants are female: 95.5% compared with 4.3% of male students. The majority of female students may slightly influence the feedback because females tend to be reserved in their comments. Additionally, they might be less interested in information technology than their male peers. However, thanks to this majority, the number of course attendees would be large because it is often thought that girls are more studious than boys.

Participants' lesson attendance

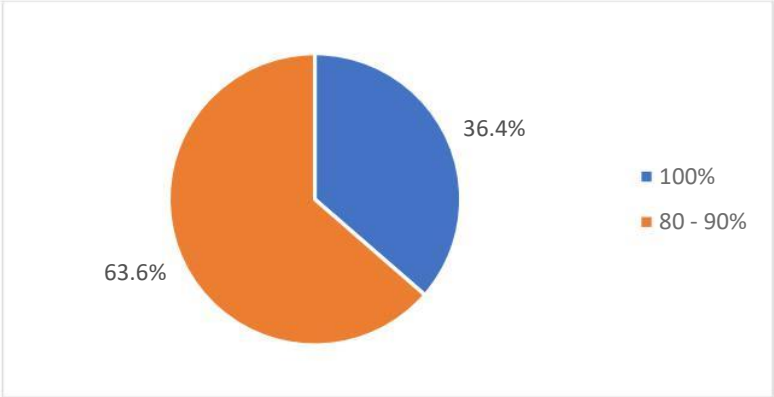



**Figure 4**: Percentage of participants' lesson attendance

According to Figure 4, the percentage of students attending all lessons during the course is 36.4%, and the remaining percentage is for students with 80% to 90% of class time attendance. This statistic coincides with the one recorded in the list of checking attendance made by the researcher (also the lecturer of the course) during the course. Nowadays university students enjoy more freedom and autonomy in their learning. Moreover, the fact that they do part-time jobs and are absent from some lessons in the class is a popular trend. Therefore, their such high level of class attendance proves that they were fairly interested in learning the course despite difficulties caused by virtual learning as reflected in their feedback in the questionnaire and in-depth interviews analysed below. And, it can be said that the application of the internet tools created some positive influence on their motivation. When asked to comment on the internet tools applied in the writing course, one interviewee shared "Generally, all of them are useful although the effectiveness level of each of them is different."

**Students' difficulties in learning English essay writing online**

As can be seen from Table 1 below, the most difficulty for the participants when learning English essay writing online is "Lacking face-to-face communication in solving group tasks…". This obstacle makes up 59.1% of "Strongly agree" and 31.8% of "Agree." The difficulty

ranking second in the list is "Unstable internet connection slows down the writing speed which is very important in practice writing under time pressure." The percentage for "Strongly agree" and "Agree" accounted for 63.7%. As for this difficulty, there are still some percentages of "Strongly disagree" (13.6%) because the Wi-Fi connection stability might depend on the participants 'resident area.

**Table 1**: Students' difficulties in learning English essay writing online

| Statements | Strongly agree | Agree | Neutral | Disagree | Strongly disagree |
|---|---|---|---|---|---|
| Lacking face-to-face communication in solving group tasks such as brainstorming, planning essay outlines, deciding appropriate transition signals to create coherence in an essay. | 59.1% | 31.8% | 9.1% | 0% | 0% |
| The traditional writing textbook was converted to virtual teaching one; therefore, some tasks are inappropriate. | 14.1% | 13.7 % | 8.4% | 33.2 % | 30.6 % |
| Limited materials for learning English essay writing virtually. | 13.6% | 28.2% | 13.2% | 18.2% | 26.8% |
| Insufficient interaction between the teacher and students, between student and student. | 9.0% | 10.6% | 11% | 40.6 % | 28.8% |
| Unstable internet connection slows down the writing speed which is very important in practice writing under time pressure. | 41.% | 22.7% | 18.2% | 4.5% | 13.6% |
| Teacher's and peers' correction of individual writing in the class is limited. | 10.0% | 11.5% | 9.7% | 37.5% | 31.3% |

As for the interview, no interviewee said "Yes" to question 1, so all proceeded to question 2. The responses from interviews also confirmed what revealed in the Table above about the obstacles participants faced in learning English essay writing online. Replying to the interview question 2, one informant said, "I say I do not like this form of learning English essay writing because it prevents me from direct communication with my peers whenever we were asked to work in a small group to generate ideas for our writing topic or to work out a detailed essay plan". Another interviewee even stated, "The writing course book, to some extent, is not very suitable for virtual learning because originally it was compiled for the conventional classes, not for online ones." However, one interviewee shared that "Actually I don't like learning English essay writing virtually, but in the time of Covid-19 pandemic breakout, this type of learning can help ensure the continuity of my learning". For the other difficulties, there can be seen a discrepancy in the participant feedback. There are still some levels of disagreement on the difficulty. For example, for the idea of "Insufficient interaction between the teacher and students, between student and student," the percentage of "strongly disagree" is larger than that of "strongly agree": (28.8% for the former, 9.0% for the latter). This may be explained by the fact that the application of the internet tools may mitigate the drawbacks caused by the virtual learning.

**Students' feedback on the efficiency of online tools applied by the teacher in the English essay writing course**

During the English essay writing course, the teacher has applied 5 virtual tools which are Zalo, the function Breakout room of the MS Team platform, Jam board, Padlet and Paragraph punch

to help increase interaction in the class. The questionnaire results show that most of the participants supported the application of these tools and agreed that they all brought positive effects on their essay writing learning with no percent of "strongly disagree" for all questionnaire items. However, there are still some learners revealed their hesitation of the efficiency of the tools in helping them to learn through the statistics of "neutral." Fortunately, the percentage of this side is not so large: 12.0% for the effectiveness of Jam board, 10.2% for the Paragraph punch. The percentage of "neutral" for the other three items is below 10 percent. The tool receiving the highest percentage of "strongly agree" of 52.7% is Zalo with the idea that "Zalo is very useful in getting teacher's tasks designed for students in the process of teaching essay writing in the virtual environment." This explains for 33.2 % of "disagree" and 30.6 % of "strongly disagree" for the difficulty "The traditional writing textbook was converted to virtual teaching one; therefore, some tasks are inappropriate..." The participants might think that this problem was to some extent overcome by the tasks designed by the teacher and sent to them through Zalo. The function Breakout room of the MS Team platform ranks second in the level of participants' appreciation manifested in Figure 2. In fact, before showing the results of any writing tasks in Padlet or Jam board the students had to discuss in small groups via this tool. In addition, it is this tool that makes the virtual English essay writing class interactive. As for Paragraph punch, 81.8% of participants strongly agreed and agreed with the idea that Paragraph punch is an effective aid to students in such steps as pre-writing, writing, organizing, editing, and rewriting. Students' feedbacks on the efficiency of internet tools are summarized in Table 2.

**Table 2**: Students' feedback on the efficiency of online tools applied by the teacher in the English essay writing course

| Statements | Strongly agree | Agree | Neutral | Disagree | Strongly disagree |
|---|---|---|---|---|---|
| Zalo is very useful in getting teacher's tasks designed for students in the process of teaching essay writing in the virtual environment. | 52.7% | 38.2 % | 9.1% | 0% | 0% |
| Breakout room is extremely useful for conducting collaborative essay writing tasks. | 42.4% | 47.8% | 5.5% | 4.3% | 0% |
| Jam board is very effective in all group activities relating to writing English essay such as brainstorming, essay outlining, writing body paragraph, peer correction of essay drafts , etc… | 37.1% | 46.2% | 12.0% | 4.7% | 0% |
| Padlet is very helpful in displaying students' individual or group writing for the teacher's correction or feedback. | 37.5 % | 50.8% | 9.3% | 2.4 % | 0% |
| Paragraph punch is an effective aid to students in such steps as pre-writing, writing, organizing, editing, and rewriting. | 40.0% | 41.8% | 10.2% | 8% | 0% |

## CONCLUSION

This paper has investigated the UFLS-UD non-English major third-year students' experience on learning an English Essay Writing course with teacher's application of online tools. The questionnaire results and the in-depth interviews show their difficulties and their feedback on the efficiency of the internet tools the teacher applied in teaching the course. The data analysis reveals that most of the participants have positive feedback on the tools used and some difficulties they faced might be partly overcome by the application of these tools in the English

essay writing course. However, to improve the quality of their learning of the course in the virtual environment, the university can follow some of the following suggestions:

1. The e-course book of English essay writing should be used to replace the current conventional course book so that the activities would be more appropriate with the new teaching and learning environment.
2. Technical solutions relating to the Wi-Fi connection should be provided by the University to make the connection more stable to create favourable conditions for students 'practice writing under time pressure.
3. Beside the online tools already applied, more tools should be used to vary the class activities to make students more motivated in their writing learning.

## REFERENCES


Harmer, J. (2001). The practice of English language teaching. (3 rd ed.). Longman.

Handayani, F., & Handayani, N. (2020). The potential of online writing tools for EFL university students during the Covid-19 Pandemic. Journal of English Education, 6(1), 9-18. DOI:10.30606/jee.v6i1.406.

Mehlenbacher, B., Miller, C., Covington, D, J. S. Larsen (2000). Active and interactive learning online: a comparison of Web-based and conventional writing classes. IEEE Transactions on Professional Communication, 43(2), 166 - 184.

Nguyen Van Long, Nguyen Nu Thuy Uyen (2021). Computer assisted language learning: from theory to practice - A course book. Ha Noi: Vietnam National University Press.

Oshima, A. Hogue, A. (1998). Writing academic English (3 rd ed.). New York: Addison Wesley Longman.

Selvarasu, E., Thomas, A., Sundareswara, I., Rahaman, A., Farzana, S., & Pareli, M. K. (2021). Teaching writing using online tools: An experimental study at the University of Technology and Applied Sciences. International Journal of Linguistics, Literature and Translation, 4(6), 196-201. DOI: 10.32996/ijllt.2021.4.6.22.

**APPENDICES A: Questionnaire on the student experience on learning English essay writing with teacher's application of online tools**

This questionnaire aims to investigate the third-year non-English major students' experience on learning English essay writing with teacher's application of online tools at Faculty of International Studies, UFLS-UD. Your contribution is of great value to the research. The data collected will serve the study purpose only, not for any others. Please answer the questions by putting a tick (√) in the option you choose.

Part 1. Informants' general information

1. Gender: ▪ Male ▪ Female
2. Percentage of your lesson attendance during the Course:

- 100% ▪
- 80 - 90% ▪
- Below 80% ▪

Part 2. Feedback on Student difficulties in learning English essay writing online
Please put a tick (√) in the option showing your opinions on difficulties in learning English essay writing online.

| Statements | Strongly agree | Agree | Neutral | Disagree | Strongly disagree |
|---|---|---|---|---|---|
| Lacking face-to-face communication in solving group tasks such as brainstorming, planning essay outlines, deciding appropriate transition signals to create coherence in an essay. | | | | | |
| The traditional writing textbook was converted to virtual teaching one; therefore, some tasks are inappropriate. | | | | | |
| Limited materials for learning English essay writing virtually. | | | | | |
| Insufficient interaction between the teacher and students, between student and student. | | | | | |
| Unstable internet connection slows down the writing speed which is very important in practice writing under time pressure. | | | | | |
| Teacher's and peers' correction of individual writing in the class is limited. | | | | | |

Part 3. Students' Feedback on the efficiency of online tools applied in the English essay writing course.
Please put a tick (√) in the option showing your opinion on the efficiency of online tools applied in the English essay writing course.

| Statements | Strongly agree | Agree | Neutral | Disagree | Strongly disagree |
|---|---|---|---|---|---|
| Zalo is very useful in getting teacher's tasks designed for students in the process of teaching essay writing in the virtual environment. | | | | | |
| Breakout room is extremely useful for conducting collaborative essay writing tasks. | | | | | |
| Jam board is very effective in all group activities relating to writing English essay such as brainstorming, essay outlining, writing body paragraph, peer correction of essay drafts , etc… | | | | | |
| Padlet is very helpful in displaying students' individual or group writing for the teacher's correction or feedback. | | | | | |
| Paragraph punch is an effective aid to students in such steps as pre-writing, writing, organizing, editing, and rewriting. | | | | | |

Thank you for your kind cooperation!

**APPENDICES B: List of in-depth interview questions**

1. Do you like learning English essay writing online?
2. If your answer is "No," what are the reasons?

To mitigate the inconvenience of your learning English essay writing in virtual environment, teacher has applied such online tools as Zalo, Breakout room function of the MS Team platform, Jam board, Padlet and Paragraph punch in writing classes. What do you think about the efficiency of these tools?

# THE APPLICATION OF ANALYTIC HIERARCHY PROCESS IN THE EVALUATION OF COLLEGE STUDENTS' INNOVATION AND ENTREPRENEURSHIP ABILITY

Zhang Yueli
Faculty of Psychology and Education,
Universiti Malaysia Sabah
3212084378@qq.com

## ABSTRACT

The evaluation of college students' innovation and entrepreneurship ability is comprehensive and fuzzy. In this paper, an evaluation index system of college students' innovation and entrepreneurship ability is constructed by using analytic hierarchy process, to carry out quantitative analysis on the evaluation of college students' innovation and entrepreneurship ability. This study takes Yibin University as the research object. Firstly, the evaluation of college students' innovation and entrepreneurship ability is taken as the target layer, and then three criterion layers are constructed, finally, plan layers(11 indicators) are constructed as evaluation indexes of college students' innovation and entrepreneurship ability. The analytic hierarchy process (AHP) is used to calculate the final weight of each index, as well as the composite weight of each layer element to the target layer element, and the ranking is carried out to make the corresponding decision, which provides reference for the performance evaluation of the cultivation of college students' innovation and entrepreneurship ability. The empirical analysis shows that the consciousness of innovation and entrepreneurship ranks first in the system of college students' innovation and entrepreneurship ability which is different from the conventional viewpoints.

**Keywords:** Analytic hierarchy process, innovation and entrepreneurship, ability evaluation, college students

## INTRODUCTION

For a long time, the traditional Chinese education concept holds that the choices faced by college students after graduation are employment, postgraduate entrance examination or going abroad. The talent cultivation goal of college students is limited to research and application, and the whole society and families lack the cultivation of children's innovative spirit, entrepreneurial consciousness and entrepreneurial ability. The employment difficulty of college students has become a social focus. The policy of mass innovation and entrepreneurship proposed by the government is a long-term mechanism to encourage and help college students to start their own businesses and find jobs, which not only broadens the employment scope of college students, but also creates more jobs for the society and stimulates and promotes economic growth and development. However, the success rate of college students is only 2% to 3%, accounting for only 10 percent of successful start-ups. There are many influencing factors, but the key factor is the innovation and entrepreneurship ability of college students (Zhu Ying, 2020). An accurate and objective evaluation of college students' innovation and entrepreneurship ability can not only help college students understand themselves correctly, grasp employment and entrepreneurship opportunities and reduce opportunity costs, but also adjust the cultivation mode of college

students' innovation and entrepreneurship ability, improve teaching methods and means and improve teaching quality according to the evaluation results. In the talent development strategy of the new era, higher requirements are put forward for talents' practical ability and innovation and entrepreneurship ability (He Dandan et al., 2018). Strengthening innovation and entrepreneurship education for college students is undoubtedly the best way to alleviate the current employment difficulties. From the perspective of sustainable development and employment rate guarantee, colleges and universities should seize their advantages in innovation and entrepreneurship education, strengthen the combination of "industry-university-research" education, and train more applied talents with innovation and entrepreneurship ability. As the most energetic and creative group, it has become a hot topic in China's higher education reform to cultivate the innovation and entrepreneurship ability of college students and promote innovation and entrepreneurship education. Through the literature review, it was found that the current research mainly focuses on the cultivation mode of innovation and entrepreneurship education from the perspective of universities; There is no effective evaluation mechanism for the performance of innovation and entrepreneurship education, that is, the innovation and entrepreneurship ability of college students, which leads to the assimilation of education models, the lack of targeted training, and the innovation and entrepreneurship education becoming a mere formality (Chen Ying, 2019).

Therefore, this paper takes Yibin University as the research object. On the existing literature of innovation and entrepreneurship education, the evaluation indicators of college students' innovation and entrepreneurship ability are sorted out and screened. Through interviews with teachers and discussions with students, the evaluation indicators of college students' innovation and entrepreneurship ability are determined. Establish the evaluation system of college students' innovation and entrepreneurship ability by Analytic Hierarchy Process (AHP). AHP is an often-used procedure to solve strategic decision problems in theory and reality (Wolfgang Ossianic et. al., 1999). It was suggested by Saaty (1980) and called AHP. This method allows us to determine the weights (significances) of hierarchically non-structured or hierarchical level criteria in respect of those belonging to a higher level (Valentinas Podvezko,2009). Through empirical analysis, this paper evaluates the innovation and entrepreneurship ability for students in Yibin University and tries to fully reflect the real situation of the innovation and entrepreneurship ability of college students, to provide reference for the innovation and entrepreneurship education of college students.

## LITERATURE REVIEW

Today, with the rapid development of "Internet plus", enterprises and social organizations often need compound and comprehensive quality talents. They also require talents not only to have professional skills and abilities, but also to have "Internet plus" thinking and development ability, Li Xinyu (2020) pointed out that colleges and universities need to establish and improve a systematic training system for innovation and entrepreneurship, so that students can master professional knowledge in the learning process and set high standards for them with "Internet plus". Based on fuzzy analytic hierarchy process, Chen Yaqiong (2019) evaluated and studied college students in science and engineering from five aspects: social adaptability, independent learning, independent entrepreneurship, independent development, and innovation reform. He Hui et al. (2019) used factor analysis method to study the evaluation index system of entrepreneurial ability of college students in the capital and believed that entrepreneurial knowledge and general entrepreneurial ability were the most important for the evaluation of entrepreneurial ability of college students. Liu Xuebing et al. (2019) believe that entrepreneurial ability, entrepreneurial quality and entrepreneurial consciousness can best reflect the real level of college students' entrepreneurial ability. Yang Yan et al. (2009) studied the application of TRIZ method in the

evaluation of college students' innovation ability, overcoming the influence of subjective weight assignment in existing models on the evaluation results. Zhang Yongmei et al. (2008) developed an evaluation system for college students' scientific and technological innovation ability based on participation in scientific and technological innovation activities and awards in innovation competitions. Shen Ming (2019) established a composite evaluation method for college students' innovation and entrepreneurship ability by using rough set theory and extension theory in coordination with the four levels of innovation and entrepreneurship environment, education, practice and results as the focus.

Through the analysis and study of these relevant literatures, it was found that the current evaluation index system and methods of college students' innovation and entrepreneurship ability present the following deficiencies: First, the concept is vague. The connotation and characteristics of innovation and entrepreneurship are not well understood, and the relationship between innovation and entrepreneurship is confused, resulting in a vague concept. Second, evaluation lacks induction. Either the evaluation index is complex, or the evaluation process is tedious, which is not conducive to popularization and use, or the evaluation method has a great subjective influence, or the evaluation index is fuzzy and cannot be measured qualitatively. Most of the personality qualities in the evaluation indexes are formed before the higher education stage and should not be completely included in the innovation and entrepreneurship education stage in colleges and universities. Third, the orientation is misplaced. Overemphasis on theoretical demand orientation and neglect of practical innovation and entrepreneurship application needs, resulting in non-standard evaluation index system. Fourth, the science is poor. The word meaning of evaluation index is similar and the repetition degree is high, resulting in the evaluation result is not scientific. Although our university has initially established an evaluation system for innovation and entrepreneurship ability and carried out the effect evaluation, the detection effect is not sustainable and scientific due to many problems mentioned above. Analytic hierarchy process (AHP) can deal with the characteristics of uncertain and imprecise data, to obtain more objective index weight value (Mahsa Razavi Davoudi et. al., 2012). It allows for a calculation of a consistency index for the prioritization. This opportunity arises from the fact that AHP is based on all pair-wise comparisons of whatever we would like to prioritize. Also, this fact causes more accurate results of AHP than other methods (Danesh et. al., 2009). Combined with the evaluation characteristics of coordination quality and quantity of hierarchy theory, the advantages and characteristics of hierarchy analysis theory are applied in different stages of the evaluation process, and based on this, the evaluation system of college students' innovation and entrepreneurship ability is constructed. College students' innovation and entrepreneurship ability can be improved to a certain extent, which requires a scientific and objective evaluation system, the comprehensive evaluation of the innovation and entrepreneurship ability of college students is carried out, the evaluation indicators and results are of great importance to the follow-up implementation of innovation and entrepreneurship education, adjustment of work mode, direction, focus and follow-up investment.

## RESEARCH METHOD

The Analytic Hierarchy Process (AHP) is proposed by Saaty, a famous American operational research scientist. AHP is a systematic and hierarchical analysis method combining qualitative and quantitative analysis, and it is also a practical decision analysis method. It divided the problems to be analyzed into different components and gathers and combines these factors according to the progressive and subordinate relationship to form a multi-level analysis structure model, by pair-wise comparison of the importance of elements at the same level, a judgment matrix is constructed to calculate the weight of the relative importance order of elements at each level and determine the weight ordering of elements.

Finally, the total weight of elements at each level to the overall goal is calculated to provide a quantitative basis for decision-making (Chen Ying, 2019). The main steps of this method are as follows:

a) According to hierarchical division of each associated element involved in the problem to be solved, forming a hierarchical structure model composed of target layer, criterion layer and scheme layer.
b) Using the mathematical method of judgment matrix and matrix operation to compare the elements of the same level in pairs, calculate the relative weight and judge the relative importance of each element.
c) Verifying the consistency of judgment matrix to ensure the scientific and reasonable results of hierarchy analysis.
d) Calculating the composite weight of elements of each layer to elements of the target layer and sort them to make corresponding decisions.

**Constructing the hierarchical structure model**

College students' innovation and entrepreneurship ability is composed of many factors. According to relevant literature research and combined with the actual situation of Yibin University, through interviews and discussions with college students' entrepreneurs, college experts, teachers and students, the evaluation index of college students' innovation and entrepreneurship ability is determined, which is divided into three-level evaluation index system according to the hierarchical structure of analytic hierarchy process. The target layer is college students' innovation and entrepreneurship ability (A); the criterion layer includes three parts: innovation and entrepreneurship consciousness (B1), innovation and entrepreneurship skills (B2) and innovation and entrepreneurship management ability (B3). Indicator layer (C) consists of11 three-level indicators, C11 for innovation and entrepreneurship, C12 for learning ability, C13 for self-confidence, C21 for risk bearing ability, C22 for grasp opportunities, C23 for practice ability, C24 for market development ability, C31 for team organization ability, C32 for enterprise operation ability, C33 for strategic decision-making ability and C34 for financial management ability. As shown in Figure 1, the hierarchical structure model of innovation and entrepreneurship capability evaluation established in this paper is shown in Figure 1.

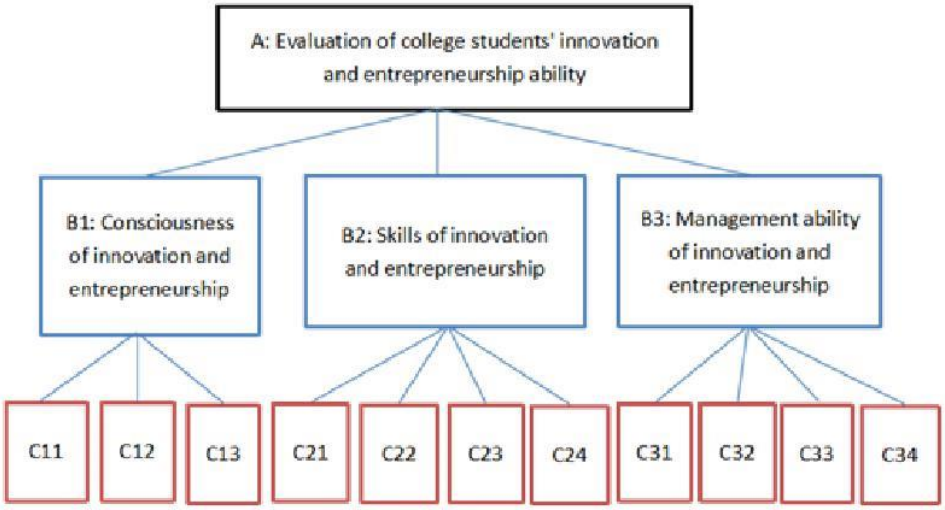



**Figure 1**: The hierarchical structure model of innovation and entrepreneurship capability

**Constructing pairwise comparison matrix**

Starting at level 2 of the hierarchy model, for factors at the same level that are subordinate to (or influence) each of the factors at the next level. Pair-comparison matrix is constructed

by pair-comparison method and 1-9 comparison scale until the lowest layer (Guo Hongwei et al., 2010). Table 1 shows the Saaty comparison scale and its interpretation.

**Table 1**: 1-9 Comparison scale and interpretation

| Definition | Scale | Interpretation |
|---|---|---|
| Equal importance | 1 | Two indicators have equal importance |
| More important | 3 | Two indicators, one is slightly more important than the other, otherwise, it is 1/3. |
| Obviously important | 5 | Two indicators, one is obviously important than the other indicator, otherwise, it is 1/5 |
| Very important | 7 | Two indicators, one is very important than the other indicator, otherwise, it is 1/7 |
| Absolutely important | 9 | Two indicators, one is absolutely important than the other indicator, otherwise it is 1/9 |
| The importance is between two adjacent odd numbers | 2,4,6,8 | Represents the intermediate value of the above adjacent judgments |

**Calculating weight vector and testing consistency**

The weight vector and testing its consistency can be done using the following procedures:

1) Calculating the consistency index CI. It can be calculated by the following formula. N is the order of the matrix. Cl is a standard to measure the inconsistencies of comparative judgment matrices.

$$CI=\frac{\lambda max-n}{n-1}$$

2) Searching for the average random consistency index RI. The values of RI are shown in Table 2.

**Table 2: Average random consistency index**

| Matrix order | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| RI | 0 | 0 | 0.58 | 0.90 | 1.12 | 1.24 | 1.32 | 1.41 | 1.45 | 1.49 |

3) Calculating the random consistency ratio CR. It can be calculated by the following formula: When CR< 0.1, the comparison judgment matrix has satisfactory consistency, and its feature vector can be used as weight vector. Otherwise, it is necessary to readjust the comparative judgment matrix until a satisfactory consistency is achieved.

$$CR=\frac{CI}{RI}$$

4) The combination weight vector and testing the combination consistency can be calculated as such:
Compute the combined weight vector of the lowest level to the target. The combination consistency test is done according to the formula. The calculation formula of each component of the total ranking weight vector is as follows:

$$W_i = \sum_{j=1}^{m} b_j c_{ij} (i = 1,\ldots, n)$$

5) The calculation formula of total ranking random consistency index is as follows:

$$CR = \sum_{j=1}^{m} b_j CI \Big/ \sum_{j=1}^{m} b_j RI_j$$

When CR is less than 0.1, the hierarchical total ranking is good. Otherwise, the comparative judgment matrix should be readjusted.

## SAMPLING

This study conducted a questionnaire survey among 67 college students in Yibin University. The sampling method was cluster sampling, and students from three colleges were randomly sampled: That is, the Faculty of Education (13), the Faculty of Art (28) and the Faculty of Economics and Management (26). According to the regulations of the university, all students must attend the courses of innovation and entrepreneurship education. Therefore, the students of the three colleges receive the same education mode, but the difference lies in the different management modes of the colleges and the individual differences of students within the group.

## FINDINGS AND DISCUSSION

College students' innovation and entrepreneurship ability evaluation index system is a complex system composed of multiple level indicators, using the analytic hierarchy process to evaluate college students' innovation and entrepreneurship ability, determine the respective weights of each index in the whole evaluation system, is to ensure that the evaluation index system and method can work correctly, and that is the primary key step to solve.

### Establishing an evaluation system for college students' innovation and entrepreneurship ability

This section discussed college students' innovation and entrepreneurship ability.

Consciousness of innovation and entrepreneurship
College students are the focus and subject of innovation and entrepreneurship education activities, and their innovation and entrepreneurship spirit, learning ability and confidence are the most important indicators to test the ability of innovation and entrepreneurship.

Innovation and entrepreneurship skills
In the process of innovation and entrepreneurship, college students need to have certain risk bearing ability, the ability to grasp market opportunities, practical ability and certain market development ability.

Innovation and entrepreneurship management ability
Team organization is a very important factor for the success of college students' innovation and entrepreneurship, and certain enterprise operation ability, strategic decision-making ability and financial management ability are essential factors. In combination with the innovation and entrepreneurship education project of Yibin University, the evaluation system of college students' innovation and entrepreneurship ability is developed as shown in Table 3.

**Table 3**: Evaluation system of college students' innovation and entrepreneurship ability

| Target layer A | Criteria layer B | Scheme layer C |
|---|---|---|
| College students' innovation and entrepreneurship ability | B1: Consciousness of innovation and entrepreneurship | C11: Innovation and entrepreneurship |
| | | C12: Learning ability |
| | | C13: Confidence |
| | B2: Innovation and entrepreneurship skills | C21: Risk bearing ability |
| | | C22: Ability to grasp opportunities |
| | | C23: Practical ability |
| | | C24: Market development ability |
| | B3：Innovation and entrepreneurship management ability | C31: Team organization ability |
| | | C32: Enterprise operation ability |
| | | C33: Strategic decision-making ability |
| | | C34: Financial management ability |

**Constructing comparative judgment matrix**

According to the construction method of comparative judgment matrix, each specific evaluation scheme in the evaluation system of college students' innovation and entrepreneurship ability was used to form a questionnaire based on Saaty's 9-scale method, and the questionnaire was submitted to innovation and entrepreneurship teachers for review, then the questionnaire was distributed, and finally the collected data were summarized and sorted out to obtain several pairwise comparative judgment matrices of each evaluation level. Table 4-7 shows the calculation results.

**Hierarchical single ordering and consistency test**

The maximum eigenvalue $\lambda_{max}$ and corresponding eigenvector (weight vector) $W_0$ of each comparison judgment matrix are calculated by Matlab7.0. Formula (1) and formula (2) are used to calculate consistency index CI and random consistency ratio CR respectively. And the consistency can be tested by CR value. When CR<0.1, the comparative judgment matrix is considered to have good consistency. Its eigenvectors can be used as weight vectors. Otherwise, it is necessary to readjust the comparative judgment matrix until a satisfactory consistency is achieved. Table 4-7 shows the calculation results.

**Table 4**: Index weight and consistency test of matrix A-$B_i$

| **A** | **$B_1$** | **$B_2$** | **$B_3$** | **Weight Vector $w_0$** | **Index** |
|---|---|---|---|---|---|
| $B_1$ | 1 | 2 | 4 | $b_1$=0.558 | $\lambda_{max}$=3.018 |
| $B_2$ | 1/2 | 1 | 3 | $b_2$=0.320 | CI=0.009 |
| $B_3$ | 1/4 | 1/3 | 1 | $b_3$=0.122 | CR=0.016‹0.1 |

**Table 5**: Index weight and consistency test of matrix B1-C1j

| **$B_1$** | **$C_{11}$** | **$C_{12}$** | **$C_{13}$** | **Weight Vector $w_0$** | **Index** |
|---|---|---|---|---|---|
| $C_{11}$ | 1 | 3 | 3 | $c_{11}$=0.589 | $\lambda_{max}$=3.053 |
| $C_{12}$ | 1/3 | 1 | 2 | $c_{12}$=0.252 | CI=0.027 |
| $C_{13}$ | 1/3 | 1/2 | 1 | $c_{13}$=0.159 | CR=0.046‹0.1 |

**Table 6**: Index weight and consistency test of matrix B2-C2j

| **$B_2$** | **$C_{21}$** | **$C_{22}$** | **$C_{23}$** | **$C_{24}$** | **Weight Vector $w_0$** | **Index** |
|---|---|---|---|---|---|---|
| $C_{21}$ | 1 | 3 | 5 | 7 | $c_{21}$=0.581 | $\lambda_{max}$=4.059 |
| $C_{22}$ | 1/3 | 1 | 2 | 4 | $c_{22}$=0.235 | CI=0.019 |
| $C_{23}$ | 1/5 | 1/2 | 1 | 1 | $c_{23}$=0.103 | RI=0.90 |
| $C_{24}$ | 1/7 | 1/4 | 1 | 1 | $c_{24}$=0.081 | CR=0.021‹0.1 |

**Table 7**: Index weight and consistency test of matrix B3-C3j

| $B_3$ | $C_{31}$ | $C_{32}$ | $C_{33}$ | $C_{34}$ | Weight Vector $w_0$ | Index |
|---|---|---|---|---|---|---|
| $C_{31}$ | 1 | 2 | 3 | 4 | $c_{31}$=0.460 | $\lambda_{max}$=4.072 |
| $C_{32}$ | 1/2 | 1 | 2 | 4 | $c_{32}$=0.298 | CI=0.024 |
| $C_{33}$ | 1/3 | 1/2 | 1 | 1 | $c_{33}$=0.134 | RI=0.90 |
| $C_{34}$ | 1/4 | 1/4 | 1 | 1 | $c_{34}$=0.108 | CR=0.027<0.1 |

**Hierarchical total ranking and overall consistency test**

The sorting vector of criterion layer (B) relative to target layer (A) is calculated by hierarchical single sorting, and the weight of index layer relative to criterion layer, among them, the total ranking of index layer relative to target layer can be calculated by formula (3) and (4). When CR<0.1, it is considered that the hierarchical total ranking results have good consistency. Otherwise, the comparative judgment matrix should be readjusted. The results are shown in Table 8. It can be seen from Table 8 that all judgments have overall consistency through the consistency test of hierarchical total ranking.

**Table 8**: Hierarchical total sorting results

| Criterion layer | $B_1$ | | | $B_2$ | | | | $B_3$ | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Weight | 0.558 | | | 0.320 | | | | 0.122 | | | |
| Target layer | $C_{11}$ | $C_{12}$ | $C_{13}$ | $C_{21}$ | $C_{22}$ | $C_{23}$ | $C_{24}$ | $C_{31}$ | $C_{32}$ | $C_{33}$ | $C_{34}$ |
| Hierarchical single ordering | 0.589 | 0.252 | 0.159 | 0.581 | 0.235 | 0.103 | 0.081 | 0.460 | 0.298 | 0.134 | 0.108 |
| Hierarchical total ordering | 0.329 | 0.141 | 0.089 | 0.186 | 0.075 | 0.033 | 0.026 | 0.056 | 0.036 | 0.016 | 0.013 |
| CI=0.024 ; RI=0.721 ; CR=0.033 < 0.1 | | | | | | | | | | | |

## CONCLUSION

This paper uses analytic hierarchy process to calculate the weight of each index in the evaluation index system of innovation and entrepreneurship ability of students in Yibin University. As an example, a method to solve the problem is introduced. It can be seen from the overall ranking results in Table 8 that the most important thing for students to judge the innovation and entrepreneurship ability of college students is the consciousness of innovation and entrepreneurship, which has a weight of 0.558 relative to the overall goal. The second is innovation and entrepreneurship skills and innovation and entrepreneurship management ability, with weights of 0.320 and 0.122 respectively. This result is consistent with the objective fact of innovation and entrepreneurship of students in Yibin University. Since the training goal of the innovation and entrepreneurship education courses of Yibin University is to improve the innovation and entrepreneurship consciousness and ability of college students, and the main goal is to cultivate the theoretical knowledge of college students, the study of the innovation and entrepreneurship education courses of Yibin University is to cultivate the innovation and entrepreneurship thinking of college students. However, in the field of practical experience learning, the foundation is relatively weak, so in the field of practice, teachers and hardware investment and efficiency should be increased to make up for this deficiency. According to the questionnaire, the top 5 students' innovation and entrepreneurship ability are innovation and entrepreneurship spirit, learning ability, risk bearing ability, team organizing ability and enterprise operation ability. The cultivation of

these abilities coincides with the goal of innovation and entrepreneurship education of Yibin University. 70% of the students in Yibin University come from rural areas, and the economic foundation for innovation and entrepreneurship is weak. Most of them choose to find jobs after graduation and start businesses when they have certain economic capacity. Therefore, the survey results show that the entrepreneurship rate of Yibin University is only 2%, which is consistent with the objective fact. How to cultivate college students' consciousness of innovation and entrepreneurship will be further studied in the future.

## REFERENCES


Chen Y.Q., Wu W.B. (2019). Research on the evaluation of entrepreneurial ability of science and engineering college students based on fuzzy analytic hierarchy process. Journal of Hunan Institute of Engineering (Natural Science Edition), 29(4): 49-53.

Chen Y. (2019). Research on the evaluation system of local university students' innovation and entrepreneurship ability based on AHP. Science and Technology Entrepreneurship, 12:137-139.

Danesh A. S., Ahmad R. (2009) Study of prioritization techniques using students as subjects. International Conference on Information Management and Engineering (ICIME), pp. 390-394.

Guo H.W., Gao D.N., Zhou X.H., Gong Y.X. (2010). Application of analytic Hierarchy Process in classroom teaching evaluation of specialized courses. China Light Industry Education, 5:13-16.

He D.D., Wang L.J. (2018). Research and construction of college students' innovation and entrepreneurship ability Evaluation system based on OBE. Education and Teaching Forum, 4 (14): 46-47.

He H., Yan L.M. (2019). Research on evaluation and cultivation of capital university students' innovation and entrepreneurship ability based on factor analysis and AHP. Journal of Innovation and Enterprise Education, 10(5): 49-54.

Li X.Y. (2020). Evaluation on the effect of innovation and entrepreneurship ability of financial management professionals under the background of "Internet +" era. Science and Technology and Information, 11:195.

Liu X.B., Guo Z.C. (2019). Research on the evaluation system construction of entrepreneurship ability of university students. Education Modernization, 6(75): 189-191.

Mahsa R. D., Kourosh S.H. (2012) Enterprise Architecture Analysis Using AHP and Fuzzy AHP. International Journal of Computer Theory and Engineering, 4(6): 911-916.

Saaty, T. L. 1980. The Analytic Hierarchy Process. M. Graw Hill, New York.

Saaty, T. L.2005. The Analytic Hierarchy and Analytic Network Processes for the Measurement of Intangible Criteria and for Decision-Making, in Figueira, J.; Greco, S.; Ehrgott, M. (Eds.). Multiple Criteria Decision Analysis: State of the Art Surveys. Springer, 345-408.

Shen M. (2019). Research on the Evaluation System of College Students' Innovation and entrepreneurship ability. Technological Economy and Management Research, 7: 23-28.

Valentinas P. (2009) Application of AHP Technique. Journal of Business Economics and Management, 10(2): 181-189. DOI: 10.3846/1611-1699.2009.10.181-189

Wolfgang O., Oliver L. (1999). AHP-based evaluation of AHP-Software. European Journal of Operational Research, 118: 578-588.

Yang Y., Shao Y.F. (2009). The application of TRIZ method in the evaluation index System of College Students' innovation ability. Journal of University of Electronic Science and Technology of China (Social Science Edition), 11 (3): 1-4.

Zhu Y. (2020). Construction of evaluation index System of College students' innovation and entrepreneurship ability. Journal of North China University of Water Resources and Electric Power (Social Science Edition), 36(1): 42-46.
Zhang Y.M., Le Y.X., Dong Y.H. (2008). The realization of college students' innovation ability evaluation system. Computer and Modernization, 1: 121-126

# A STUDY ON DIFFICULTIES IN PARTS THREE AND FOUR OF THE END OF COURSE ORAL TEST FACED BY FIRST YEAR STUDENTS AND SOME SOLUTIONS

Tran Hoang Nhi, Vo Thi Quynh Anh
Faculty of English, University of Foreign Language Studies,
The University of Danang, Vietnam
vtqanh@ufl.udn.vn, thnhi1002@gmail.com

**ABSTRACT**

Nowadays, English is the most popular language in many countries all over the world. It is used as an official language in many fields such as economics, politics, science, technology, sports, entertainment and many others. Moreover, it has also become a compulsory subject in the curriculum of many worldwide schools, colleges and universities. However, it is not easy to study and employ a foreign language. Particularly, in all four basic language skills, Speaking skill can be considered to be a significant one which requires learners to spend very much time learning and practising and most students face difficulties when presenting their ideas as well as expressing opinions in English, especially in the End of Course Oral test. This research therefore aims at studying the first-year English-majored student's problems in taking part in Part three and Part four in the End of Course Oral test at University of Foreign Language Studies - The University of Danang. This study also tries to find out the useful strategies to help first-year students to overcome these issues. The sample of the study consisted of 100 students at Faculty of English, University of Foreign Language Studies - The University of Danang. The research uses questionnaires, interviews and documents related to the issue as the tools of data collection in order to analyse difficulties and problems encountered when students take part in Parts three and four in the End of Course Oral test of the first-year students, Faculty of English, University of Foreign Language Studies

- The University of Danang. The results of this study revealed that the students at Faculty of English, UFL - UDN face many problems related to the End of Course Oral test of English Integrated Skills B1.2, particularly Part 3 and Part 4 such as Lack of Vocabulary, Lack of Grammar, Lack of Coherence and Fluency, Poor Pronunciation, Insufficient knowledge or experience on some topics, Poor Communication skills in English, Poor analytical and problem solving skills and Lack of Confidence when Speaking. This study also presented some of appropriate solutions for students to overcome these difficulties in the End of Course Oral test and improve the weakness in Speaking skill such as practicing speaking English inside and outside the classroom effectively, using the modern social media to communicate in English.

**Keywords**: English, speaking skill, end of course oral test, solutions, first-year students

## INTRODUCTION

## Rationale

It could not be denied that the English language in the whole world has become more and more important. With trends in globalization and integration today, it will be difficult to make cooperation and develop between nations without being able to understand and communicate in a foreign language. Unfortunately, in the real condition, it is also challenging for students to perform their English skills regularly, even after they have experienced learning English for about ten years or more in structured junior high school, high school, and university, because although four English skills are essential for students of all ages, although four English skills are essential for students of all ages, students seem to focus on reading and writing rather than speaking, especially, many students in high schools are taught passively by teachers. They solely concentrate on practising vocabulary, grammar with the aim of passing tests and examinations in each semester, instead of practising speaking and listening in classes. Therefore, many students, particularly first-year students, become unfamiliar with the curriculum and teaching methods when they study at universities. They tend to be afraid and lack confidence when communicating in English. In fact, achieving fluency in speaking is not easy. Students are not only demanded to use grammar correctly or have good pronunciation and vocabulary, they are also demanded to know the knowledge of how to use the language. Having a practicing environment is really significant because it not only helps freshmen improve their Speaking skill but also get good scores in the End of Course Oral test at university, where there are a lot of first-year students at the Faculty of English facing those problems with this test.

In the hope of finding out the real difficulties in the End of Course Oral test that English-majored freshmen normally face, a study entitled: " A study on difficulties in Parts three and four of the End of Course Oral Test faced by first year students at the Faculty of English - University of Foreign Language Studies - The University of Danang and some solutions" has been conducted because of all above mentioned reasons. Hopefully, this study will help students in the first year of the Faculty of English at UFL-UDN understand deeply about the issues that they have not noticed before and suggest some solutions to solve the problems and help them improve their Speaking skill in general and achieve good results in doing Part three and Part four in the End of Course Oral test in particular

## Research aims and objectives

Research aims

This study aims to find out and analyse the obstacles faced by first year students at the Faculty of English, UFL-UDN in Parts 3 and 4 of the End of Course Oral Test. Additionally, the study also provides suggestions to help them achieve good results in Speaking tests as well as improve their Speaking skill more effectively.

Research objectives

The current research aims at:

1. Identifying the difficulties in preparation for the End of Course Oral test of the first-year students
2. Identifying the causes of difficulties that affect the doing Parts three and four in the End of Course Oral test of the first-year students of the Faculty of English at UFL-UDN.
3. Suggesting effective solutions to help freshmen overcome their difficulties when doing Parts 3 and 4 in the End of Course Oral test in particular and improve their English Speaking skill in general.

Research questions

The study focuses on dealing with three main questions:

1. What are the difficulties faced by the first-year students of the Faculty of English in preparation for the End of Course Oral test at the University of Foreign Language Studies - The University of Danang?
2. What are the causes of difficulties of freshmen in doing Parts three and four of the End of Course Oral test?
3. What are effective solutions used to help them achieve good results when doing Part three and Part four in the End of Course Oral test in particular and improve speaking English in general?

Scope of the Study

The research focuses on investigating, evaluating and analysing the difficulties of 100 students, Faculty of English at University of Foreign Language Studies - The University of Danang. The study emphasises the significance of Speaking skill as well as some difficulties of these students in taking part in Parts 3 and 4 in the End of Course Oral tests and learning English speaking.

## LITERATURE REVIEW

### Previous researches related to the study

A study conducted in a key university in Qassim, Saudi Arabia by Hamouda (2013) attempted to investigate the causes of the non- participation of first-year non-English majors students in EFL classrooms. The study's findings suggest that a huge wide variety of college students have been reluctant to respond to the teachers and remained silent in oral English language school rooms because of many reasons such as low English proficiency, fear of speaking in front of others, negative evaluation, shyness, lack of confidence and preparation, and fear of making mistakes. The study additionally indicated some strategies utilised by students to participate in the class such as rehearsing what they say and preparing the ideas and questions.

Rao (2019), a lecturer at King Faisal University, performed about the importance of Speaking skills in English classrooms. The study not only showed how the advantages, significances of Speaking skill in classes are, but also suggested some solutions in order to improve Speaking skill for students in English classes such as encouraging English learners by introducing some fun activities in the form of language games, or role-play activities to get the learners to speak in English classrooms with the aim to help students become more confident to give their opinions without being afraid of making mistakes. In addition, the author also showed that the activities such as pair or group work also enhance the learners' Speaking skills enormously since the learners get an opportunity to share their thoughts and ideas with their partners. However, this study did not provide any studying methods for students but only gave recommendations for the teachers.

Another related study with the title "Factors That Influence The Problems Faced By Students Of English Tutorial Program (Etp) In Performing Speaking At Muhammadiyah University Of Surakarta" carried out by Putri (2020) showed the factors that influence the problems faced by students of English Tutorial Program (ETP) in performing speaking at Muhammadiyah University of Surakarta, particularly find out the factors that influence students problems in performing speaking. The study's findings additionally indicated factors that have an impact on the issues confronted in speaking performance are: fear of making mistakes, fear of criticism by tutors, feeling ashamed of speaking English in front of friends, lack of motivation which prevents them from practising speaking in English.

Truong Tran Minh Nhat (2018) also examined to find out the reality of English Speaking skills practice, factors which affect the process of practice at Industrial University of Ho Chi Minh City (IUH) and also suggested some practical activities which students may apply to improve their Speaking skills outside their class. On the other hand, this research

topic mainly focuses on exploiting students in the natural sciences, specifically engineering majors, which is not really practical and suitable for foreign language students.

In the context of Vietnam, Le Thi Mai (2019) also examined the same research concern at Ba Ria - Vung Tau University where students faced challenges in English Speaking skills. The findings emphasised the factors having negative effect on students' participation in speaking class with the issues from students such as learning style, anxiety, personality and language proficiency; at the same time, lecturers' issues, namely teaching methodology, knowledge and teaching facilities. Though, this study only focuses on giving recommendations for teachers, there was no given information on suggestions in practising speaking English for students.

In another study, Vu Kieu Hanh (2020) investigated the current situation in English Communication skills of the last year students at Thai Nguyen University and provided solutions. Yet, the research still has some limitations, particularly the research subjects which are the last-year students. Therefore, there are some factors that are not completely appropriate for freshmen.

In conclusion, the entire mentioned above are related to Speaking skill, the importance, challenges as well as ways to improve speaking skill. However, none of these seem to have enough options for English learners, especially first-year students. Moreover, these studies do not mention problems as well as solutions in doing oral tests for students, which this study is aiming for. Therefore, this study is carried out in order to provide suitable suggestions for the first-year students in particular and English-majored students in general.

## METHODOLOGY

### Research design

To solve the research problems in this article, the author used both quantitative and qualitative research methods. Qualitative methods were used to examine students' problems when doing Part 3 and Part 4 in the End-of-Course Oral test of English Integrated Skills B1.2 (Cambridge PET Speaking test in English level B1). Quantitative methods were used to calculate the results of the survey. From the data collection and analysis, specific solutions are given to help students overcome the problems in doing Part 3 and Part 4 in the End-of-Course Oral test of English Integrated Skills B1.2.

During the process of conducting the survey by using a questionnaire, in order to make sure that the survey questions are reliable and valid, after creating a questionnaire on the basis of previous studies, the researcher carried out the survey twice. For the first time, the researcher created a questionnaire and then run a survey experiment on a small number of students, specifically about 20 students who were the participants the study intended to. In the first time, in addition to the items gave in the questionnaire, the researcher also received some other opinions from the respondents. Since then, the researcher summarized, edited questionnaire questions and organized a survey on a larger number of students, specifically 100 students at Faculty of English.

### Research sample

The participants of this study include 100 students, Faculty of English, University of Foreign Languages - University of Danang. The criteria for these students are that students took part in the End-of-Course Oral test of English Integrated Skills B1.2 (Cambridge PET Speaking test in English level B1) and are selected based on random sampling, then, these students are filtered based on their scores in the End-of-Course Oral test of English Integrated Skills B1.2, namely students whose scores ranged between 5 - 9 points. Students with a score of 7 to 9 are surveyed with the aim of finding effective methods to overcome these problems in performing speaking. In addition, about 1-2 students will be chosen from random classes to carry out the survey.

**Instrument and data analysis**

The instruments used in this study are:

a) Questionnaire
   The method aims to find out students' views and attitudes towards English speaking activities. Besides, it is possible to know the students' habits of practising speaking skills, and find out the difficulties that students faced during the end-of-the-course speaking test.
b) Interview
   The interview aims to acquire more knowledge and better understanding about the research topic, the purposes of scientific research can be clearly defined. It is employed to find out students' attitudes, what they think or feel about problems in speaking English and in the end-of-the-course oral test.

The data collected from the questionnaire via the survey method will be analysed using statistical test and analysis. The researcher will import the data into the Excel software. Then, the researcher filtered and checked the data. Next, the researcher used SPSS software, which is short for Statistical Package for the Social Sciences, and it is used by many kinds of researchers for complex statistical data analysis.

Qualitative data collected from the interview will also be transcribed and described in the findings. The data were then categorized into topics related to the objectives of the study. The data of the interview would be compared with the data of the survey form to clear and specify students' difficulties and discover more information about the objective of the study.

**Validity and Reliability**

Validity

In this study, the survey questionnaire made is valid and it can be used to find out difficulties in taking part in Part 3 and Part 4 in the End-of-Course Oral Test faced by freshmen at the Faculty of English, UFL-UDN. The expected findings and discussions are relevant to answer the research questions. In addition, the researcher also conducted the validity test by using Microsoft Office Excel 2010 and SPSS software.

Reliability

According to Johnson and Christensen (2008), reliability refers to how consistently a method measures something. If the results that are as same as to each one achieved by using the same methods under similar circumstances, the measurement is considered reliable. In this study, the analysis of reliability of survey questionnaires in this research was measured with Microsoft Office Excel 2010 program and SPSS. The reliability of the questionnaire was tested by interviewing students in the random classes; at the same time, measured the reliability of the questionnaire by putting all the valid items into Microsoft Office Excel 2010 programs and SPSS.

After cleaning and coding the data, the researcher used SPSS software to check the reliability of the questionnaires by relying on the value of Cronbach's alpha, which provides a estimate of the internal consistency or reliability of a scale. The minimum acceptable value for Cronbach's alpha is 0.70 and the maximum expected value is 0.90; below this value the internal consistency of the common range is low.

The Cronbach's Alpha result for the questionnaire was .769 and .744 respectively. It indicated acceptable reliability.

**Data collection**

First of all, the survey questionnaire (Appendix A) was the instrument used to collect the data from 100 students at the Faculty of English - University of Foreign Language Studies - The University of Danang. After the students had finished answering the questionnaire, the researcher interviewed about eight - ten students whose scores in the End-of-Course Oral test of English Integrated Skills B1.2 ranged between 6 - 9 points in the random classes to specify information as well as to get their perception and opinions. The interview records were written out for analysis.

## FINDINGS AND DISCUSSION

**Findings**

The author surveyed the students' attitudes towards Cambridge PET Speaking test in English level B1 in End of Course Oral test. The survey result showed that the majority of students (65.14%) had never taken the Cambridge PET Speaking test at English level B1 when they were in high school. This can also be considered as one of the reasons why most students have difficulty in taking part in the Speaking test of English Integrated Skills B1.2. Besides that, the research also conducted a survey of students' thoughts about difficulty of Part 3 & 4 in the form of PET Speaking test. The data are displayed in Figure 4.1 and Figure 4.2. Figure 4.1 & 4.2 shown clearly that most students have difficulty in performing Part 3 (Picture Description), accounting for about 45.72% consisting of "Quite difficult" and "difficult" and Part 4 (Discussion) with the number of 59.43% including "Quite difficult", "Difficult" and "Very difficult" in the End-of-Course Oral test of English Integrated Skills B1.2.

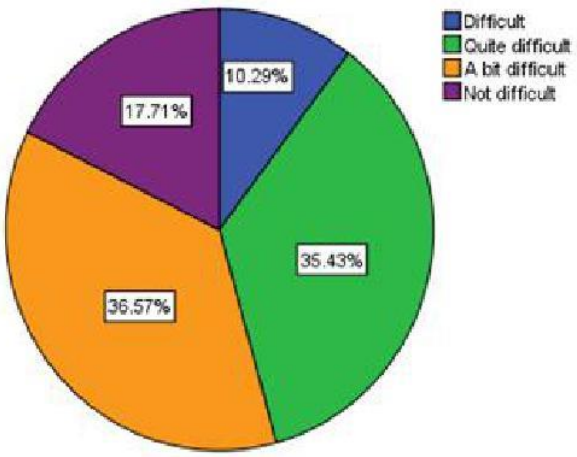



**Figure 1: Students' thoughts about difficulty of Part 3 in the form of PET Speaking test**

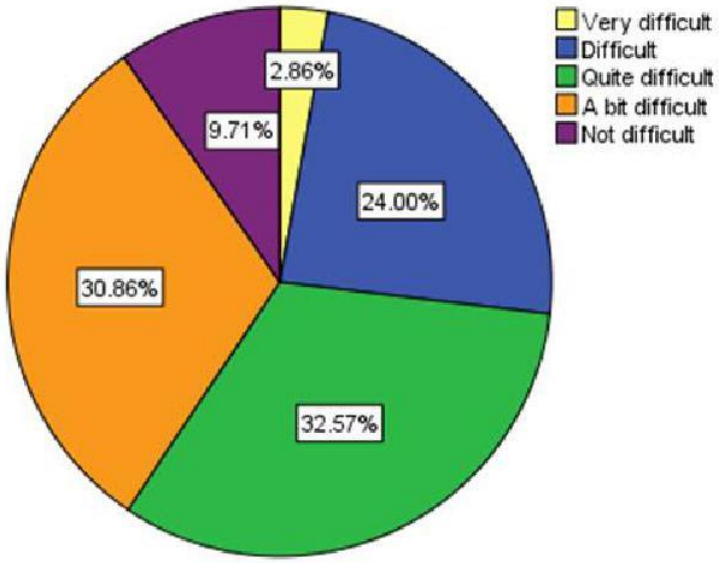



**Figure 2: Students' thoughts about difficulty of Part 4 in the form of PET Speaking test**

Based on the survey results, main challenges that students encountered when practising speaking English Alone in the form of PET Speaking test in order to prepare for the End of Course Oral test are summarized in Table 4.1.

**Table 1: Difficulties encountered by students when practising speaking English Alone in the form of PET Speaking test**

| Difficulties when practising Speaking English Alone in the form of PET Speaking test | Rate |
|---|---|
| Not having an English speaking environment | 57.0% |
| Feeling confused about the structure of the Speaking test | 23.4% |
| Not having plenty of resources to practise speaking English | 32.2% |
| Having difficulties in selecting suitable materials for your own level to practise speaking | 57.8% |
| Having difficulties in identifying and correcting errors in your own speaking | 69.2% |
| Being easily distracted when practising English speaking alone | 69.7% |
| Not being able to manage the time for self-study and practice properly | 57.1% |
| Not having enough motivation and getting bored quickly in the process of self-studying English effectively | 64.6% |

During the process of taking part in the End-of-Course Oral test of English Integrated Skills B1.2, students encountered many objective and subjective problems. Therefore, the survey questionnaire also carried out the students' problems when performing Parts 3 and 4 in the End of Course Oral test of English Integrated Skills B1.2 and colleted the results in Table 4.2 below.

**Table 2: Problems often encountered by students when performing Parts 3 and 4 in the End of Course Oral test of English Integrated Skills B1.2**

| Problems often encountered by students when performing Parts 3 and 4 in the End of Course Oral test of English Integrated Skills B1.2 | Rate |
|---|---|
| Having a limited vocabulary which causes difficulty in expressing in sentences | 85.1% |
| Misusing some basic grammatical structures in the Speaking test | 62.9% |
| Not being able to expressing ideas smoothly, often having unnatural pauses when Speaking | 78.3% |
| Having poor listening and analytical skills, not being able to fully understand the opinions of the partner / examiner, which lead to off-topic answers | 54.0% |
| Feeling confused due to having insufficient knowledge or experience on some topics or not practising thoroughly | 77.1% |
| Having difficulties in finding out the main ideas for the Speaking test, particularly picture description | 69.0% |
| Spending too much time on the discussion, not paying attention to the time | 53.2% |
| Being too focused on giving opinions and forgetting to develop a conversation with your partner | 54.2% |
| Not knowing how to develop a conversation between you and your partner | 64.6% |
| Having pressure in the exam room, being nervous and lacking confidence speaking | 73.1% |

**Solutions (Part 3 and 4)**

The solutions for First-year students to improve performance in doing Part 3 and Part 4 in the End of Course Oral test of English Integrated Skills B1.2 are described as the following:

Solutions for students to do part 3 of the speaking test in PET (Picture Description): How to do part 3 of the speaking test in PET (Picture Description)?

Before starting describing, students need to look at the picture, the scene and answer the following 4 questions:

a) What is the subject of the picture (mainly people)? How many?
b) What is the subject's action?
c) What is the expression of the subject in the photo?
d) What is the relationship between subjects if it is a group?

For the above questions, students only need to think in their minds; At the same time, students also need to find phrases to describe the action taking place in the picture. The description process should include the following four steps:

Step 1: Determine where the context of the picture is

- This is the picture taken in + Noun ( Location)
- This is the picture of …
- It looks like it's in + Noun (Location)
- This picture shows …

- This picture was taken in/on/at…
- In this picture, there is/are …
- In this picture, I see …

Step 2: Describe things around in the picture (Describe the left, right, front and back of the picture)


- Picture directions

1. 'In the top left corner …'
2. 'In the top left corner…'
3. 'In the bottom right corner…'
4. 'In the bottom left corner…'
5. 'In the middle …'
6. 'In the foreground…'
7. 'In the background…'
8. 'in the middle on the right…'

Example**:**

- In the background, there are some white cupboards.
- In the middle, there are three people making salad happily.
- In the middle on the left, there is a window and a sink.

• Preposition of places

On, In, Next to, Behind, In front of, Under, Behind, Between…and…

Example**:**

- There's a window next to the cupboards
- There are some tomatoes in the bowl
- There is a toaster under the white cupboards

Step 3: Identify and describe the most prominent detail in the picture (Commonly describing the people)

- Describe the people
- What are they wearing?
- What do they look like? ( Including describing Height/Build, hair and general appearance)
- What is their relationship?
- What are they doing?
- Where are they?
- Why are they there?

Example**:** In the middle, there is a woman wearing a floral print long sleeve shirt. She looks like a middle-aged woman. She has long, dark blonde hair. It seems that she is the mother of the little girl sitting next to her. She is mixing salads with two wooden spoons.

- Speculating
- Must + infinitive

  Example**:**
  - They must be a happy family.
  - They must be in the kitchen.
- Could/May/might + infinitive

  Example**:**
  - They may be preparing for lunch

Step 4: State your feelings about the picture

- All in all/ Overall, it looks like/seems + adjective.
- …looks + adjective.
- …seems to be + adjective…

- I think/guess…
- There must be

**Solutions (Part 4 Speaking test in PET)**

In part 4 of the test, students will need to talk to their partner again. They both will need to give opinions, and talk about their likes / dislikes, preferences, experiences, habits, etc. In this part, students are expected to have a general conversation with their partner, take it in turns to speak, ask their partner's opinion, respond to what their partner has said, and finally, show interest in what their partner has said.

When giving opinions, three points should be considered below:

a)Always involve the partner

In Speaking Part 4, the interaction is one of the main marking criteria in the PET Speaking exam. That's why students should always make sure to take turns, put in some useful language and balance out their talking time. Therefore, after giving opinions, students should ask their partner for their opinion, invite their partner to share their view and respond to what they say.

b) Listen to the partner

The way students interact with their partner is one of the most important factors in Speaking Part 4. The problem is that interaction always goes in two directions. One person speaks and the other one listens. In the exam, it is necessary for students to listen actively to their partner and refer to what they say in your reply.

c)Develop and Join ideas together

In addition to focusing on interacting with the partner, to get a good score in the Discussion part, students should remember to use specific Vocabulary and know how to add ideas to their answers when giving their views.

**Structures often used when doing Part 4 (Discussion)**

Useful phrases used in Part 4 can be divided into different groups as follows:

| For Giving your opinion | For Asking your partner's opinion | For Agreeing | For Disagreeing | For Partly agreeing |
|---|---|---|---|---|
| • In my view,...<br>• In my opinion…<br>• From my point of view,...<br>• I think... I don't think<br>• As far as I'm concerned...<br>• The way I see it...<br>• I would say that…<br>• It seems to me that…<br>• I am of the opinion | • What do you think about that?<br>• How about you?<br>• What's your opinion/view?<br>• What's your idea?<br>• What are your thoughts on all of this?<br>• How do you feel about that?<br>• Do you have anything to say about this? | • Yes, I agree..<br>• That's right!<br>• Absolutely!<br>• Exactly!<br>• Me too!<br>• I totally agree!<br>• I see exactly what you mean!<br>• You're right. That's a good point.<br>• I am of the same opinion.<br>• I am with you.<br>• I approve of | • I disagree<br>• I don't agree!<br>• I totally disagree!<br>• I'm not sure about that.<br>• I don't think so.<br>• I'm afraid I disagree.<br>• (strong) I'd say the exact opposite.<br>• That's not always true.<br>• That's not always the case. | • It is only partly true that…<br>• That's true, but…<br>• That seems obvious, but…<br>• I agree with you in part, but…<br>• Well, you could be right.<br>• We don't seem to be in complete agreement… |

| | | | | |
|---|---|---|---|---|
| that..<br>• Speaking personally…<br>• As I see it…<br>• From my perspective …<br>• Personally, I think…<br>• What I mean is…<br>• As for me / As to me, …<br>• I hold the opinion/ view that… | • Do you agree?<br>• Wouldn't you say? | it.<br>• I completely / absolutely agree with you.<br>• I couldn't agree with you more.<br>• I feel the same.<br>• I have to side with you on this one.<br>• I hold the same opinion.<br>• I really think so. | | |

Some materials for students to practise Part 3 and 4 of the Speaking test in PET
In order to get good results for the Final Speaking test, students not only need to understand the structure of the test, but also practise a lot before the exam. Below is a list of effective Cambridge PET exam preparation materials for students.

The first is the book "B1 Preliminary 1 For The Revised 2020 Exam" which is an English book dedicated to the Cambridge PET exam preparation, published by Cambridge University, including 6 sample tests. The sample tests have been carefully written and checked by the PET Examination Council, helping learners improve their knowledge and skills and become more confident when taking part in the PET exam.

- Download link for B1 Preliminary 1 For The Revised 2020 Exam: https://drive.google.com/file/d/1VlV94Tq9dgJZ8-Rt1nObn8nWvdi1oGN4/view

The second is the book "Cambridge Preliminary English Test". It has 8 books: PET 1-8. This book series helps students familiarise themselves with PET exam formats (Including 4 skills: Listening, Speaking, Reading, and Writing). The answers are also mentioned at the end of the book. Practice tests provide learners with the opportunity to familiarise themselves with the PET exam and prepare thoroughly for the Speaking test in pairs.

- Download link for Cambridge Preliminary English Test: https://drive.google.com/drive/folders/115nh8yZCcWbobv1uV5EBfXBH-cTUk4cd

The third is the book "Cambridge Exams Extra PET". This is also the book published by Cambridge. The book includes 4 PET tests from Cambridge ESOL with additional instructions and test tips. "Cambridge Exams Extra" is a new series of books that provide Cambridge ESOL tests along with loads of additional material for classroom use or for self-study. This book is helpful exam overview and instruction on how to tackle each part of the test.

- Download link for Cambridge Exams Extra PET: https://drive.google.com/file/d/1527jFfTXRryzXI_rbrXLARB6wft4eApc/view

## CONCLUSION

### Summary of Findings

This chapter is the final part of the study, which reviews the whole study with the summaries of main findings, followed by implication and suggestion for the future study.

The course paper is conducted to investigate the issues that first-year students at the Faculty of English encounter while doing Parts three and four of the End of Course Oral test and suggest particular solutions to deal with these problems. From analysing the results of the questionnaire and interview, it can be seen that a very large majority of students said that Part 3 and 4 in the End of Course Oral test of English Integrated Skills B1.2 (Cambridge PET Speaking test in English level B1) are relatively difficult.

This research indicated the difficulties which students at the Faculty of English, UFL - UDN often encountered in preparing for the End of Course Speaking test of English Integrated Skills B1.2. Firstly, before taking part in the End of Course Oral test of English Integrated Skills B1.2, some students still feel confused about the structure of the Speaking test. Secondly, students face the difficulty in searching and choosing the suitable materials for their levels. Thirdly, students cannot find an English speaking environment. Fourthly, they do not know how to identify and correct errors in their own speaking. Fifthly, most students are often easily distracted when practising English speaking alone. Besides, they are not good at organising the time for self-study and practice properly. Finally, they do not often have enough motivation and get bored quickly in the process of self-studying English effectively.

In addition, the findings of the survey also showed the mistakes faced by the students at Faculty of English, UFL - UDN when performing the End of Course Oral test of English Integrated Skills B1.2, particularly Part 3 and Part 4 in the End-of-Course Oral test. The mistakes that students often encounter when doing both these parts can be summarised as follows: Lack of Vocabulary, Lack of Grammar, Lack of Coherence and Fluency, Poor Pronunciation, Insufficient knowledge or experience on some topics, Poor Communication skills in English, Poor analytical and problem solving skills and Lack of Confidence when Speaking.

From the result analysis, I have suggested particular solutions to help students overcome problems in doing Part 3 and Part 4 in the End of Course Oral test of English Integrated Skills B1.2 (Cambridge PET Speaking test in English level B1) by proposing some useful methods which students can employ when doing Part 3 and Part 4. Besides, the study also recommends some solutions to improve English Speaking skill for students at the Faculty of English, UFL - UDN.

## Implications

Based on the research findings and discussion toward difficulties in doing Part 3 and Part 4 in the End of Course Oral test of English Integrated Skills B1.2 (Cambridge PET Speaking test in English level B1) for students at the Faculty of English, some implications would be given.

For students, the research provides them with beneficial activities, websites and applications to practise and enhance their spoken English. At the same time, this study is considered as feedback and motivation for them to become more confident when giving their opinions or oral presentations in public in English and help them enhance their knowledge, skills and attitudes to English. This paper also recommends that students should have good preparation before their tests and examinations. The students should improve their self-study abilities, which create a good motivation and have a specific study plan for learning and practising English Speaking skills. Besides, in order to deal with the mistakes faced by students in doing Part 3 and Part 4 of the End-of-Course Oral test of English Integrated Skills B1.2 (Cambridge PET Speaking test in English level B1), the research suggest some necessary materials and particular methods for students to improve their performance and get good results when taking part in Parts 3 and 4 in the End of Course Oral test of English Integrated Skills B1.2. Also, through the study, learners will have a better understanding of strategies and methods when taking part in oral speaking tests.

For teachers, the results of this study are also advantageous to English teachers for introducing reference materials. The paper helps them to further understand students' issues when doing Part 3 (Picture description) and Part 4 (Discussion) in the End of Course Oral test of English Integrated Skills B1.2 so that they can make the right choice of teaching methods, which help students improve their achievement in speaking English. From the research, teachers are able to plan strategies for boosting students' Speaking skills like providing a lot of topics and tasks related to picture description and organise group discussion in class and after school. The teachers should introduce and guide the structure of the Cambridge PET Speaking test for students before the End of Course Oral test and recommend relevant reference materials whose sources are reliable and editions are new updates. In class, it is necessary to strengthen the interaction between the teacher and the students for supporting and correcting students' mistakes when speaking. Moreover, the teachers should encourage and instruct improving students' self -learning ability for learning and practising English speaking.

Finally, the study may be a reference material for those who would like to research to and develop the same the topic as this study. Moreover, it is a good chance for student to have experience to carry out scientific research and improve English Speaking skill.

**Suggestion for further studies**

For future researches, the researcher would like to give three suggestions as follows:

a) Due to the limitation, the study was only conducted with a small sample population and could not cover all aspects of the study. Therefore, further studies should expand the scope of research for a wider range of students.
b) There is a need for further studies on the design of supplementary materials, as well as studies on the application of different software to support students' practising English Speaking skills.
c) The solutions to solve the problems often faced by students when participating in the Speaking tests need to be studied more deeply and experimented with specific subjects in order to maximize efficiency to the practice process and help students achieve better results in the Speaking tests in the future.

**Limitations of the Study**

The study has three limitations:

1. Limitation of time: The study is carried out and applied during covid-19 pandemic.
2. Limitation of place: The study is only applied and carried out at UFL-UDN.
3. Limitation of subject: The study only focuses on the first year students at the Faculty of English which account for a small number of students at UFL-UDN.

## REFERENCES


Hạnh, V. K. (2020). nghiên cứu kỹ năng giao tiếp tiếng Anh của sinh viên năm cuối tại Đại Học Thái Nguyên: Thực trạng Và Giải pháp. TNU Journal of Science and Technology, 225(15), 181-186.

Mai, L. T. (2019). An investigation into factors that hinder the participation of university students in English Speaking lessons. IOSR Journal of Humanities and Social Science (IOSR-JHSS), 24(4), 84-94.

Nhật, T. T. M. (2018).Thực trạng kỹ năng Nói tiếng anh và đề xuất một số hoạt động tự rèn luyện nói tiếng Anh ngoài lớp học cho sinh viên chuyên ngành Kỹ Thuật trường Đại Học Công Nghiệp thành phố Hồ Chí Minh. Tạp chí Giáo dục, Số 435 (Kì 1 - 8/2018), tr 54-59.

Ahmad, S. R. (2016). Importance of English communication skills. International Journal of Applied Research, 2(3), 478-480.

Brown, G., Gillian, B., Brown, G. D., & Yule, G. (1983). Teaching the spoken language (Vol. 2). Cambridge University Press.
Brown, H.D. (1994). Teaching by principles: an interactive approach to language pedagogy. Englewood Cliffs, NJ: Prentice Hall Regents.
Burns, A., & Joyce, H. (1997). Focus on Speaking. Sydney, Australia: National Centre for English Language Teaching and Research.
Bygate, M. (1987). Speaking. Oxford University Press.
Bygate, M. (2009). Speaking (C. N. Candli & H. G. Widdowson, eds.). New York: Oxford University Press.
Crystal, D. (1997), English as a global language, Cambridge University Press
Chaney, A. L., & Burk, T. L. (1998). Teaching Oral Communication in Grades K-8. Allyn and Bacon, Order Processing, PO Box 11071, Des Moines, IA 50336-1071.
Celce-Murcia, M. (2001). Language teaching approaches: An overview. Teaching English as a second or foreign language, 2(1), 3-10.
Hamouda, A. (2013). An exploration of causes of Saudi students' reluctance to participate in the English language classroom. International Journal of English Language Education, 1(1), 17-34
Harmer, J. (2008). How to teach English. ELT journal, 62(3), 313-316.
Johnson, B., & Christensen, L. (2008). Educational research: Quantitative, qualitative, and mixed approaches (p. 34). Thousand Oaks, CA: Sage Publications.
Kachru, B.B . (ed.) (1992) The Other Tongue: English across Cultures, 2nd edn, Urbana: Illinois University Press.
Lazaraton, A. (2001). Teaching Oral skills. Teaching English as a second or foreign language, 3, 103-115.
Putri, D. A. N., & Hidayat, N. (2020). Problems Faced By Students Of English Tutorial Program (ETP) In Performing Speaking At Muhammadiyah University Of Surakarta (Doctoral dissertation, Universitas Muhammadiyah Surakarta)
Srinivas, P. R. (2019). The Importance of Speaking Skills in English Classrooms. Alford Council of International English & Literature Journal(ACIELJ), Vol 2(Issue 2), 18. Retrieved from www.acielj.com.
Tarigan, H. G. (2008). Berbicara: Sebagai Suatu Keterampilan Berbahasa. Bandung: Angkasa.
Ur, P. (2012). A course in English language teaching. Cambridge University Press

# FLIPPED CLASSROOM IN HIGHER EDUCATION: A LITERATURE REVIEW OF PUBLICATIONS IN MAJOR REFERRED JOURNALS FROM 2014 TO 2020

Yan Jin
Faculty of Psychology and Education, Universiti Malaysia Sabah
1286594883@qq.com

## ABSTRACT

In recent years, the flipped classroom has aroused an international research upsurge. Although there are many literature reviews on flipped classrooms, applying and exploring flipped classroom models in higher education is not enough. To understand fully applying flipped classrooms in university settings, this study reviewed23 articles on flipped classrooms in higher education published in five major educational technology research journals from January 2014 to December 2020. Most research has focused on undergraduate higher education, conducting quantitative studies on subjects such as STEM and education. China has contributed the most to flipped classroom-related research in higher education. Most of the articles have corroborated the positive influence of flipped classrooms on students' academic performance, motivation, attitude, perception, and satisfactions, as well as the cultivation of students' higher-order thinking ability, and few have discussed the challenges faced by flipped classrooms. In addition, the study corroborated several gaps in the literature. More research needs concern associated with the negative views of teachers and students on flipped classrooms in colleges and universities. This study can provide a valuable reference for educators and researchers in flipped classrooms.

**Keywords:** Higher education, flipped classroom, academic performance

## INTRODUCTION

The rapid development of emerging technologies provides unprecedented opportunities for researchers and practitioners in education around the world. Education used more and more computers, interactive devices, multimedia, and the Internet (Cheung & Slavin, 2012). Higher education workers recognize that to keep students engaged, increase their satisfaction, and promote their learning, the use of technology is critical, whether or not to adopt traditional teaching methods (O'Flaherty & Phillips, 2015).

From the economic perspective, it is difficult for universities to reduce class size and open more classes, and it is difficult to raise the attention to individual students when the ratio of students and teachers is low. These continue to challenge higher education practitioners to find more cost-effective, student-centered tactics, approaches, and curricula that engage students in the classroom and thus improve the effectiveness of the learning (Strayer, 2012).

In recent years, the traditional teacher-centered of teaching in higher education has shifted towards active learning and student-centered learning experiences that cause a sense of engagement and contribute to acquiring knowledge and skills needed for the job (Sousa & Rocha, 2019). Cooperative learning (Azizan, Mellon, Ramli, & Yusup, 2017; Johnson, 2009),

Problem-based learning (Loyens, Jones, Mikkers, & Van Gog, 2015; H. G. Schmidt, Molen, Winkel, & Wijnen, 2009), and Flipped classroom (Awidi & Paynter, 2019; Maureen et al., 2000) are some of the most effective examples.

In student-centered learning cases, the flipped classroom is flexible and adaptable when used in combination with other active learning methods (Zainuddin, 2018). Its digital and audiovisual parts create an emotional connection with Generation Z students, which is the goal of higher education (Anthony, 2015; Priporas, Stylos, & Fotiadis, 2017). Improving students' higher-order thinking skills, such as creativity, is an important task facing higher education institutions in a rapidly changing digital world.

Flipped learning is suited to higher education settings and large lecture courses, where student participation is often low (Marcey & Department, 2014). Reviewing the previous studies, it found applying and exploring the flipped model in higher education is not enough. To understand fully applying flipped classrooms in a university environment, this paper reviews the relevant literature on flipped classrooms in universities.

The review addressed the following four research questions.

(1) In the research involving flipped classrooms in higher education, what is the publication journal and publication year of the paper, the level of education of the participants, national background, subject area, assessment type and supporting technology, research design, and research purpose?

(2) How to design the classroom activities of flipped classrooms?

(3) What are the educational outcomes produced by flipped classrooms?

(4) What technology in supporting teaching, learning, and assessment?

## LITERATURE REVIEW

### Flipped classroom

The flipped classroom model began to appear in higher education classrooms in 2000 (Lage, Platt, & Treglia, 2000). The essence of flipped classrooms is the exchange of teachers' time to impart basic knowledge in class and students' time to apply knowledge or do homework outside class (Bergmann & Sams, 2012). In the flipped classroom, the main purpose of teachers' classroom changes from helping students understand and memorize knowledge to stimulating students' higher-order thinking so students can master their learning progress and rhythm (Kyukim, Kim, Khera, & Joan, 2014). Compared with a traditional classroom, flipped classroom pays more attention to students' participation in knowledge construction and provides students with more opportunities for cooperation and application through group discussion, practical assignments, projects, and other ways (Davies, Dean, & Ball, 2013; Lai & Hwang, 2016).

### Past Studies

There are many published articles in higher education on the systematic review of flipped classrooms. For example, (K. S. Chen et al., 2018) conducted a meta-analysis of 46 items on the effectiveness of flipped classrooms in medical education. According to Evans et al. (2019), many systematically studies applying flipped classroom teaching method in health professional education. For example, applying flipped classrooms in nursing education that are associated with this teaching method (Evans et al., 2019). Van et al. (2019) conducted a meta-analysis of 114 items on the effectiveness of flipped classroom teaching in secondary and college education. Researchers like Lo et al. (2017) reviews math flipped classroom research in K-12 and higher education settings while Al-Samarraie et al. (2017) have researched applying flipped classrooms in seven university disciplines. Brewer & Movahedazarhouligh (2018) analyzed the

research status of flipped classrooms in higher education from the implementation, efficiency, and quality. O'Flaherty and Phillips (2015) provide a comprehensive review of the research on emerging the flipped classroom and its link to pedagogy and educational outcomes. Despite these reviews, there is a lack of comprehensive research on teaching resources, activity design, technology, assessment types, effectiveness, and other flipped classroom in colleges and universities. Because flipped classroom has become a focus for teachers and education policy it seems necessary to fill this research gap. The purpose of this review is to provide a reference for the current implementation of flipped classroom in colleges and universities, as higher education sectors increasingly shift to online delivery and the widespread adoption of flipped classroom. In particular, the design the types and applications and specific technologies of flipped classroom to attract students to improve the effectiveness of flipped classroom and the learning experience of students.

## METHOD

### Inclusion and exclusion criteria

The two main inclusion criteria for articles considered in this review are:

(1) The article should be published in a peer-reviewed journal.

(2) The selected literature sources are top publications in educational technology research. Use the Google Academic Indicator to identify the five top journals in educational technology based on the journals' 5-year H Index and H Median Indicator. The search for top journals is as follows: Category: Social Sciences; Subcategory: Educational technology and dedicated to collaborative and open research on learning analytics. As a result, we identify and use the following journals in the current research: Computers and Education (CAE), British Journal of Educational Technology (BJET), Internet and Higher Education (IHEDUC), Educational Technology, and Society (JETS), Computer Assisted Learning (JCAL). Table 1 shows the impact factors (according to the journal citation report of the Institute for Scientific Information (ISI)) and the H5 index (according to the Google Academic Indicator). Chose the review period from 2014 to 2020 because it provides the latest trends in flipped classroom research. Table 2 shows the inclusion and exclusion criteria.

**Table 1:** Educational technology journals included in literature review research

| Academic Journal | Impact Factor JCR (2018) | h5-index Google Scholar (2014-2018) |
|---|---|---|
| Computers & Education | 5.627 | 94 |
| British Journal of Educational Technology | 2.588 | 56 |
| Internet and Higher Education | 5.284 | 50 |
| Educational Technology & Society | 2.133 | 49 |
| Journal of Computer Assisted Learning | 2.451 | 35 |

**Table 2:** Inclusion and exclusion criteria

| Inclusion criteria | Exclusion criteria |
|---|---|
| 2014 - 2020 | Articles outside this time range |
| English | Non-English |
| Articles are published on CAE, BJET, IHEDUC, JETS, JCAL | Conference papers, Book chapters, Master's thesis, Doctoral dissertations |
| Article was peer-reviewed | Review articles and Theoretical articles |
| Higher education (in any subject) must be the first requirement | Not higher education |

**Search strategy**

We search the subject of the article using the following search terms :(" Flipped Classroom "or" Flipped Mode "or" Flipped Learning "or" Flipped Method "or" Flipped Environment "or" Flipped Teaching "or" Flipped Education "or" Flipped Classroom "or" Reverse Classroom "or" Inverted Classroom ") AND (" University Learning/Situation "or" Higher Education "or" Undergraduate "or" Undergraduate/Graduate ")

**Research Selection**

The search results were 40 articles (not including duplicates). After preliminary screening, the researcher deleted 13 articles (excluded by checking the title or abstract). In addition, excluded 4 articles unrelated to the scope of our study (according to inclusion and exclusion criteria) after full-text eligibility checks. Eventually 23 articles were used. Inclusion and exclusion criteria for literature retrieval are based on mature PRISMA principles (Moher, Liberati, Tetzlaff, Altman, & Group, 2009).

**Analysis framework and coding**

According to the research question, We studied the following characteristics and appropriately coded :(1) the journal of publication, (2) the year of publication, (3) the education level of the participants (undergraduate, master students, and Ph.D. students, in-service teachers), (4) the national background, (5) the subject area (STEM, social sciences, education, arts, medicine, and health, not specified),(6) types of assessment (formative, summative, self-assessment, peer assessment, teacher assessment), (7) supporting techniques, (8) research design (quantitative, qualitative, or mixed).

## RESULTS

The authors conducted a literature search in five major educational technology research journals and identified 23 relevant articles published between January 2014 and December 2020. Table 3 shows the results of our review of 23 journal articles on flipped classrooms in higher education published between January 2014 and December 2020. The following is a detailed analysis of the review results, organized into four sections based on the four questions of the study (refer Table 3).

**Table 3:** Detailed analysis of the review results

| No | Study | Academic Journal | Subjects | Country | Course Name | Technologies Used | Assessment Type | Research Design | Research Purpose |
|---|---|---|---|---|---|---|---|---|---|
| 1 | (Kong & Song, 2015) | CAE | (n=26) In-service teachers | Hong Kong | The in-service teacher professional development programme | BYOD, Edmodo | Summative assessment, Formative assessment | Mixed | Identify future directions for teacher professional development on e-learning for reflective engagement in flipped classrooms in higher education. |
| 2 | (Wang, 2017) | CAE | (n=488) Undergraduate students | Taiwan | 10 Programming courses | Moodle | Formative assessment, Summative assessment, Self-assessments | Quantitative | The exploration of how online behavior engagement affects achievement in the flipped classroom. |
| 3 | (Stohr, Demaziere, & Adawi, 2020) | CAE | (n=52) Master and Ph.D. students | Sweden | Modelling of Nuclear Reactors | Ping Pong, Mediasite, Adobe Connect | Peer-assessment | Quantitative | Evaluate the efficacy of the online flipped classroom through the lens of transactional distance theory. |
| 4 | (Murillo-Zamorano, Sanchez, & Godoy-Caballero, 2019) | CAE | (n=160) Undergraduate students | Spain | Macroeconomics | Blend space platform, Google+, Google Drive, mobile devices | Not specified | Quantitative | Present a successful flipped classroom proposal in terms of knowledge, skills, and engagement. |
| 5 | (Huang & Hew, 2018) | CAE | (n=80) Master students | Hong Kong | Basic statistics course and SPSS | Moodle | Peer-assessment | Mixed | Explore gamification strategies to motivate students to participate in more out-of-class activities without forfeiting the quality of work. |
| 6 | (Ng, 2018) | CAE | (n=73) Fresh students | Hong Kong | Information Technology in Education | Google wiki, Pixlr, Google form, YouTube | Summative assessment, Formative assessment, Self-assessment | Mixed | To verify whether flipped classrooms can improve formative learning outcomes of first-year university students concerning self-regulation principles. |
| 7 | (Y. Chen, Wang, Kinshuk, & Chen, 2014) | CAE | (n=32) Graduate students | Taiwan | Computer Network and Internet | Holistic Flipped Classroom (HFC)platform, Cyber F2F | Formative assessment | Qualitative | Develop a more robust model for flipped learning in higher education. |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 8 | (Wang, 2019) | CAE | (n=431) Undergraduate students | Taiwan | 9 Programming courses | Moodle | Formative, Summative assessment, Self-assessments, Peer-assessment | Quantitative | Explore online behavioral engagement with in-class and out-of-class activities affected achievement in flipped classrooms. |
| 9 | (Wanner & Palmer, 2015) | CAE | (n=109) Undergraduate students | Australia | Governance and Sustainable Development in the Social Sciences | Not specified | Self-assessments | Qualitative | Flexible assessment combined with a flipped-classroom approach to teaching. |
| 10 | (Blau & Shamir-Inbal, 2017) | CAE | (n=36) Students(27 in-service teachers, 9 digital content designers | Israel | Technologies and Learning Systems | Google Apps, Moodle | Self-assessments, Peer-assessment, Technology-enhanced embedded assessment | Qualitative | Devised and examined a novel extension of the FC model. |
| 11 | (N. T. T. Thai, De Wever, & Valcke, 2017) | CAE | (n=90) The second-year undergraduate students | Vietnam | Invertebrates | Not specified | Not specified | Quantitative | Examines the differential impact of studying in a flipped classroom (FC), blended learning (BL), traditional learning (TL), and e-learning (EL) on learning performance, self-efficacy beliefs, intrinsic motivation, and perceived flexibility. |
| 12 | (Al-Zahrani, 2015) | BJET | (n=55) University students | Saudi Arabia | E-Learning course | YouTube | Not specified | Quantitative | Investigate the impact of the flipped classroom on the promotion of students' creative thinking. |
| 13 | (Kazanidis, Pellas, Fotaris, & Tsinakos, 2019) | BJET | (n=128) The third-year undergraduate students | Greek | Instructional design and learning theories in Informatics | Blog, Moodle forums, Emails, Skype | Formative assessment | Quantitative | Determine the effectiveness of the flipped classroom approach to teaching instructional media design subjects. |
| 14 | (Sailer & Sailer, 2020) | BJET | (n=205) Educational science students | German | Two lectures in an educational science program | Quizalize | Formative assessment | Quantitative | Suggests a gamified flipped-classroom approach to address in-class activities that can be supported in large lectures. |
| 15 | (Lee & Choi, 2018) | BJET | (n=61) Juniors and | Korea | College life science course | YouTube | Teacher-assessments, Peer-assessment | Quantitative | Ascertain the implications of designing and |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | sophomores | | | | | | implementing FL pre-class learning. |
| 16 | (van Leeuwen, Bos, van Ravenswaaij, & van Oostenrijk, 2019) | BJET | (n=150) University students | Netherlands | Centered around designing educational materials (DEM) | PeerWise | Formative assessment | Quantitative | Investigate to what extent taking into account Temporal patterns of student activity as well as instructional conditions can help to explain student achievement. |
| 17 | (Hsia & Hwang, 2020) | BJET | (n=129) University students | Taiwan | College dance course | Evernote | Not specified | Mixed | Proposed a flipped learning approach with a reflection-promoting mechanism to promote students' reflection in the dance course. |
| 18 | (Chyr, Shen, Chiang, Lin, & Tsai, 2017) | JETS | (n=102) The first-year university students | Taiwan | Applied Information Technology: Office Software | LINE | Formative assessment | Quantitative | Explored the effects of online academic help-seeking (OAHS) and flipped learning (FL) on students' development of involvement, self-efficacy, and self-directed learning. |
| 19 | (Kurt, 2017) | JETS | (n=62) The second-year students | Turkey | Classroom Management course | Edmodo, Present. me | Not specified | Mixed | Implementation of the flipped approach in a higher education institution in Turkey. |
| 20 | (Yılmaz, 2020) | JCAL | (n=104) University students | Turkey | Computer | Moodle | Formative assessment | Mixed | Investigate the effect of using learning analytics-based process feedback on students' perceptions of the community of inquiry (teaching, social and cognitive. Presence) and their reflective thinking skills. |
| 21 | (Ngoc Thuy Thi Thai, Wever, & Valcke, 2020) | JCAL | (n=106) The third-year undergraduate students | Vietnam | Animal and Human Physiology | Dokeos platform | Not specified | Qualitative | Compares Face-to-face learning (F2F), fully e-learning (EL), blended learning (BL), and flipped classroom (FC) with respect to students' learning |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | performance. |
| 22 | (Yorganci, 2020) | JCAL | (n=163) The first-year students | Turkey | Mathematics | Moodle, Khan Academy platform | Not specified | Quantitative | Implementing flipped learning approach based on 'first principles of instruction' in mathematics courses. |
| 23 | (Doo & Bonk, 2020) | JCAL | (n=390) undergraduate students | Korea | Philosophy of Consideration | Not specified | Not specified | Quantitative | Examined the effects of self-efficacy, self-regulation, and social presence on learning engagement in University classes using a flipped learning approach. |

**Research Question 1: Type of journal classification**

In research involving flipped classrooms in higher education, (a) journal and year of publication of the paper, (b) education level of participants, (c) national background, (d) subject area, (e) assessment type and supporting technology, (f) research design and (g) research purpose?

Classification by the number of articles published by year and journal

Table 4 shows the number of articles on flipped classrooms in higher education published in five selected major educational technology journals between January 2014 and December 2020. CAE journals published most of the articles (11), followed by BJET(6) and JCAL(4), JETS published only 2, and IHEDUC did not meet the inclusion criteria. Figure 1 shows the number of flipped classroom articles in higher education published between January 2014 and December 2020, in terms of year of publication. As can be seen from the figure, the number of literature was growing in the first two years (2014-2015). In 2016, the five major educational technology journals did not meet the inclusion criteria. After that, the number of publications related to the flipped classroom in higher education increased rapidly (2016-2017). Then, for some time, the number of publications on flipped classrooms in higher education showed a trend of slow decline (2017-2018). Today, the number of publications on flipped classroom research in higher education is on the rise again (2018-2020).

**Table 4:** Articles about flipped classrooms in higher education by an academic journal

| Academic Journal | Articles | % |
|---|---|---|
| Computers & Education | 11 | 48% |
| British Journal of Educational Technology | 6 | 26% |
| Internet and Higher Education | 0 | 0% |
| Educational Technology & Society | 2 | 9% |
| Journal of Computer Assisted Learning | 4 | 17% |

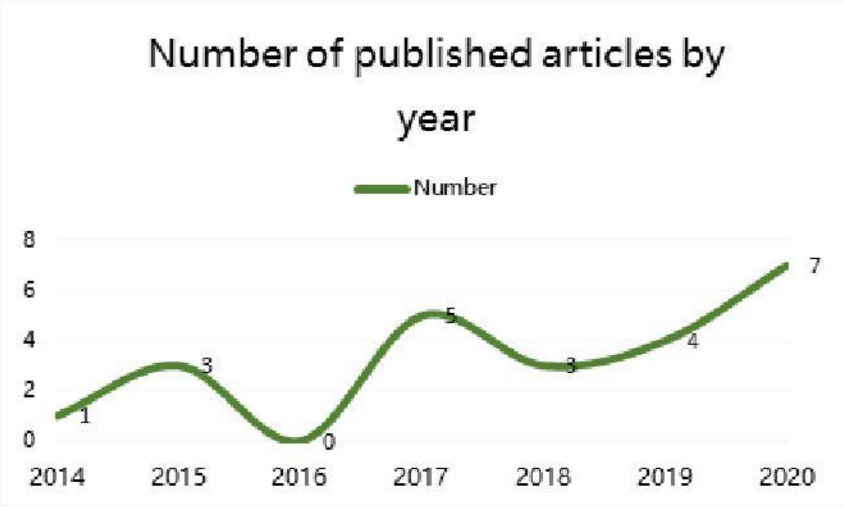



**Figure 1:** Number of literature published from 2014 to 2020

Classification according to the subjects
In most flipped classroom studies in higher education, participants are undergraduate students (74%), followed by master and doctoral students (17%), and part-time teachers (9%) (Figure 2).

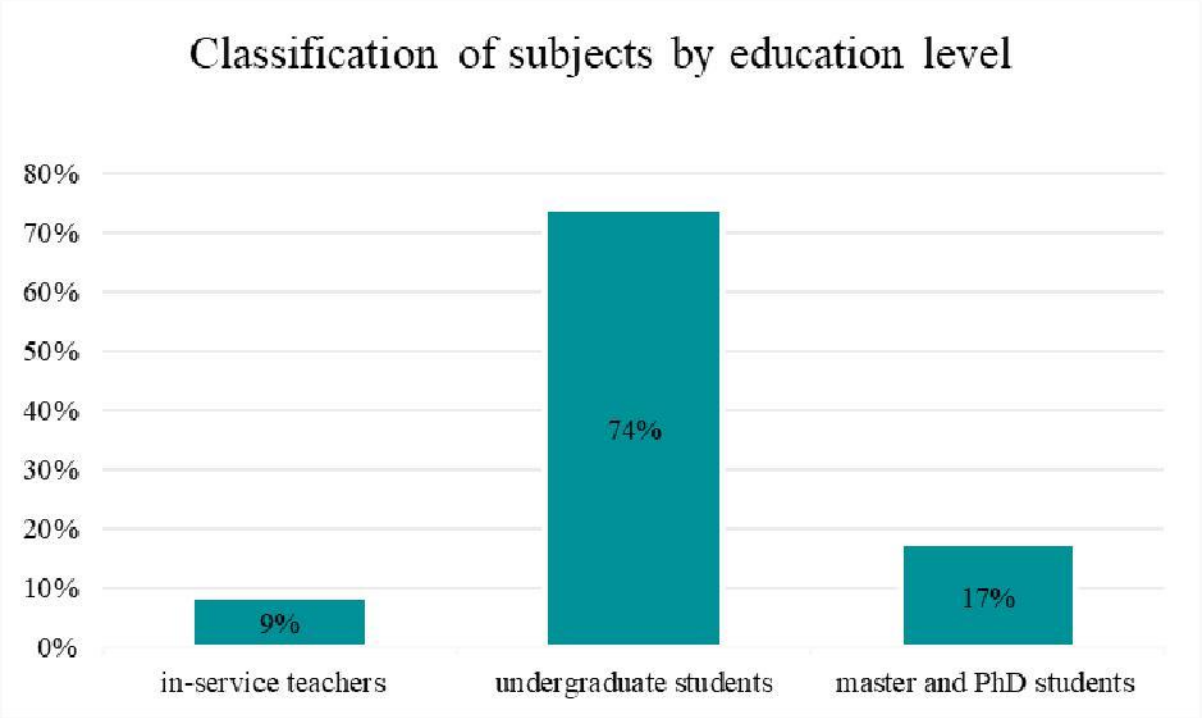



**Figure 2:** Classification of subjects according to their education level

Classification by national background
Most of the articles were written in four specific country contexts: China (Taiwan and Hong Kong, 35%), Turkey (13%), Vietnam (9%), and South Korea (9%). In the literature on flipped classroom research in higher education, the authors from Taiwan contributed the most (5 articles), followed by Hong Kong (3 articles) and Turkey (3 articles). Other countries (such as

Spain, Australia, Israel, Saudi Arabia, Greece, Sweden, Germany, and the Netherlands each account for 4%) also have research on flipped classrooms in higher education (as shown in Figure 3).

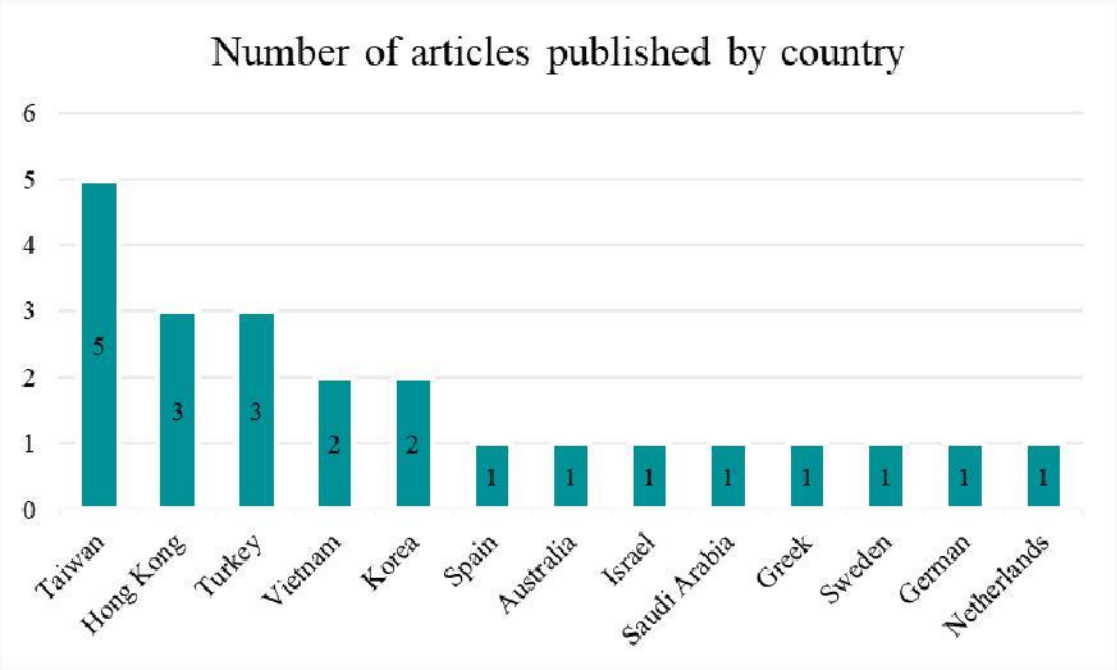



**Figure 3:** Classifies the number of articles published by the country

Classification by field of study
About 43% of the articles reviewed were STEM subjects (engineering and technology, science, math). 52% involved social sciences, education, and the arts. There is also a study in medicine and health sciences (Figure 4).

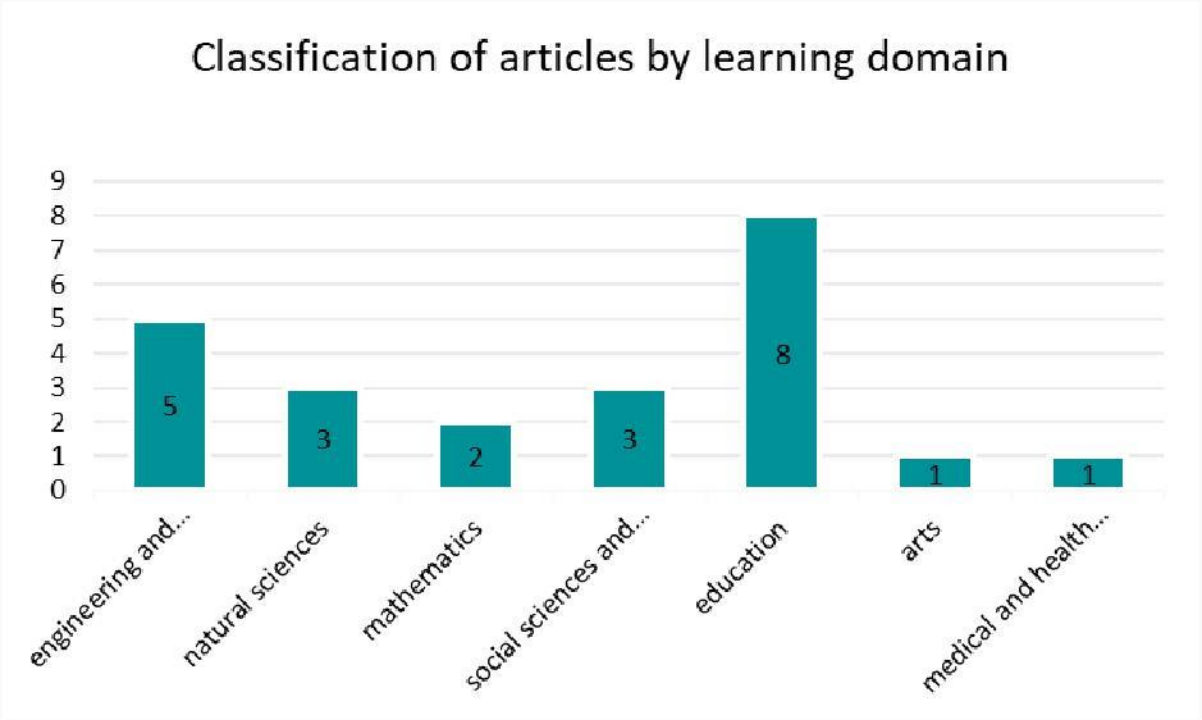



**Figure 4:** Classified by learning domain

Classified by assessment type and supporting technology

Most of the reviewed articles mentioned formative assessment (43%), followed by a combination of formative and summative assessment (17%), followed by self-assessment (13%) and peer assessment (13%), and a combination of self-assessment and peer assessment (9%). 13% were assessed using mobile devices (1,7,18). The researchers believe that mobile devices, due to their universal nature and instant feedback mechanisms, are a suitable medium for conducting formative assessments indoors or outdoors, anytime, anywhere (Hwang & Chang, 2011). Mobile devices are also an appropriate means of self-assessment and peer review (Nikou & Anastasios, 2013). In addition, one article mentions an additional type of assessment (technology-enhanced embedded assessment) (Figure 5). 35% of the articles did not specify the type of assessment.

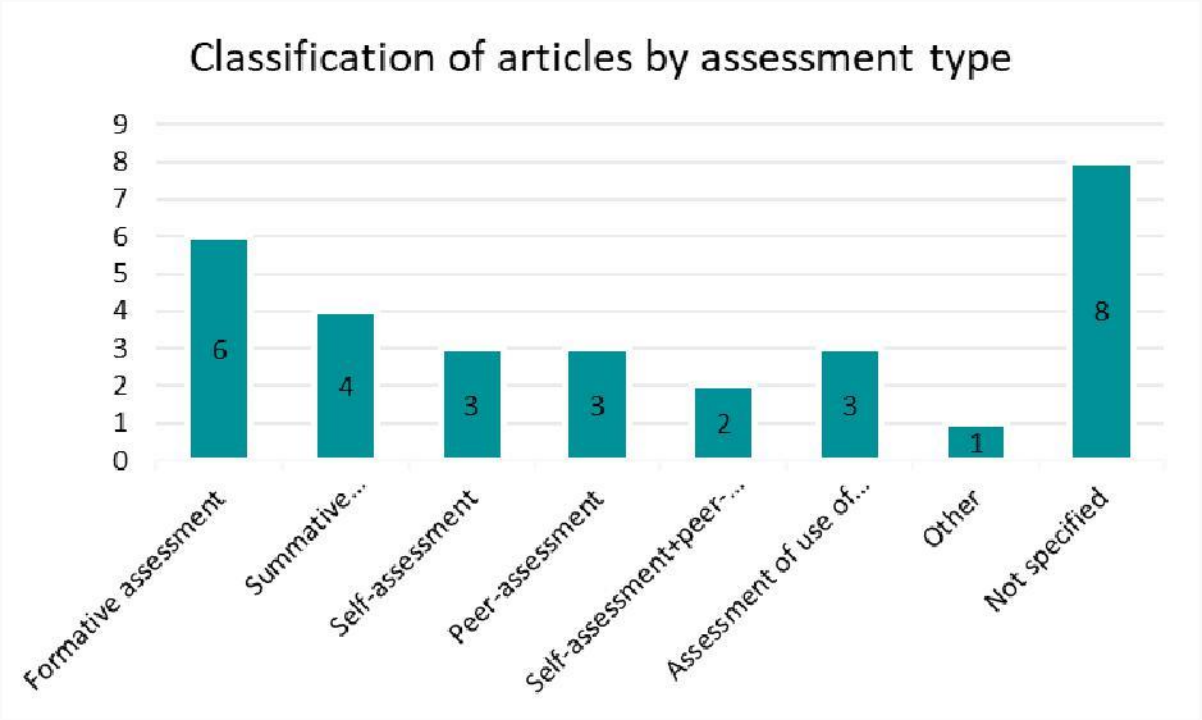



**Figure 5:** Categorized by assessment type

Classification based on research design
Most of the review articles were based on quantitative design (13, 57%), followed by mixed study design (6, 26%). Only (4, 17%) articles were based on qualitative research design, as shown in Figure 6.

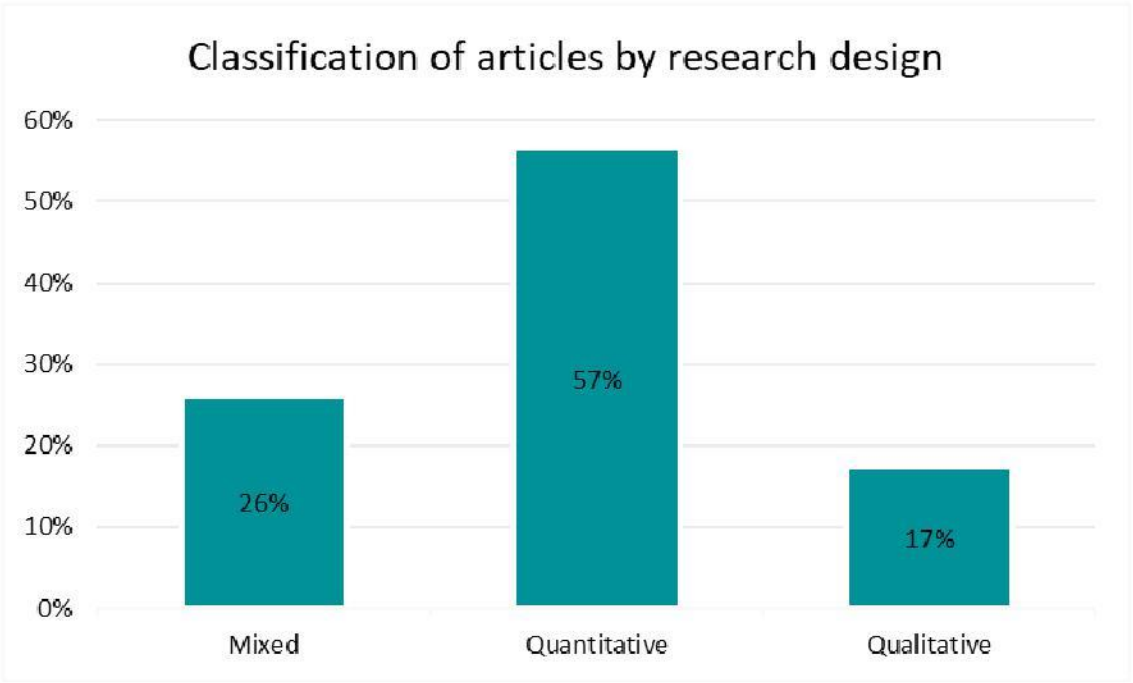



**Figure 6:** Classification by study design

Classification according to research purposes
Regarding the research purpose of the review articles, we classified the articles as follows:10 articles (43%) evaluated the effectiveness of flipped classroom practices in higher education, and 13 articles (57%) realized the optimal design of flipped classrooms in higher education.

**Research Question 2: How to design the classroom activities of flipped classrooms?**
There are three learning stages in the flipped classroom, including the pre-class stage, in-class stage, and after-class stage. In this article, the pre-class stage and the post-class stage are referred to as the extra-curricular stage.

Extracurricular Asynchronous Activities
Resources for the pre-class stage include lecture/tutorial videotape (1, 3-7, 9-17, 19-23), video embedded with online quizzes (3), lecture recording (10, 18), flash (18), reading materials (1, 2, 4,5, 7-10, 13, 15, 16, 19, 20, 22), presentation files (10, 13), study guides (10, 13), timetables (10), links to collaborative documents (10), pre-class tasks (5), online quizzes (2, 3, 7, 9, 19, 20, 22), etc. In the above articles, (Lee & Choi, 2018) verified the importance of pre-class learning in the flipped classroom.

Stage after-class teacher by organizing online synchronous video conference (3, 10, 16, 18), online tutoring (3), online questionnaire (2, 4, 12), self-report (6, 13), self-reflection (1, 2, 8, 9), self-assessment (2, 8), BBS (5-10, 13, 18-20, 23), exercises (2, 22), homework (2, 3, 8, 12, 13, 19), email (3), learning results shared by students (10) and other activities to optimize flipped classroom.

Synchronized classroom activities
The in-class stage is the activity in the Face-to-Face (F2F) flipped classroom: case-based presentations, team-based discussions, group discussions, expert-led discussions, role-playing, and student presentations, discussions, and debates (1, 2, 6-8, 10, 12, 15, 16, 19, 21-23), as well as mini-lectures and tutoring (1-3, 6, 8, 9, 15-17, 19) to close knowledge gaps. In addition, there are classroom tests (1, 2, 7, 8, 12, 14, 15, 18), timely summary and feedback (3, 4, 11, 12, 21), practice (6, 7), homework (8) and other activities organized to understand students' knowledge mastery, as well as gamification competitions as a form of classroom activities (4).

**Research Question 3: What are the educational outcomes produced by flipped classrooms?**
Most of the articles did not have a control group (43%), 30% of the articles evaluated educational outcomes by comparing existing courses using traditional teaching methods with courses using flipped classrooms, and 17% of the articles evaluated educational outcomes by comparing courses using traditional flipped classroom teaching mode with an optimized flipped classroom. The remaining articles (9%) used other classrooms such as full e-learning (EL), blended learning (BL), enhanced hybrid model, and flipped classrooms as a comparison study.

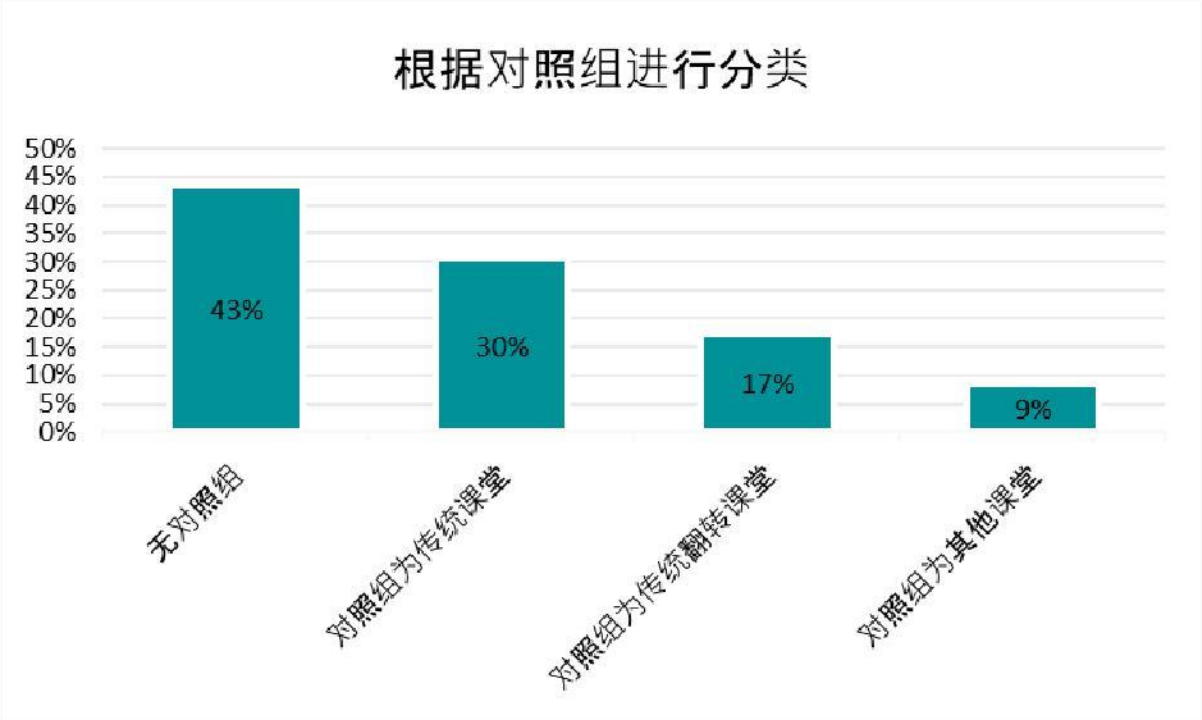



**Figure 7:** Classification according to the control group

Many articles, using Likert scale surveys and anonymous open surveys, reported students' views on the flipped classrooms and increased satisfaction (7, 9, 13, 19, 20), higher motivation (11, 14), better academic performance (2, 4, 11, 13, 14, 17, 19, 21, 22), better creative thinking ability (12), higher participation (4, 7, 9, 18), the better quality of homework and activities in and out of class (5), better formative learning outcomes (6), higher self-efficacy (11, 18, 19, 21, 22), better reflective thinking ability (1, 17, 20), better self-directed learning (18), support to develop the five core competencies (communication, collaboration, critical thinking, complex problem solving and creativity) (10).

While flipped classrooms can bring positive educational outcomes, teachers say flexible learning and flipped classrooms in particular need more effort. About half of the teachers stated that they had a low level of investment in flipped classrooms and felt much pressure to incorporate flipped classrooms into their curriculum (9).

**Research Question 4: The contribution of technology in supporting teaching, learning, and assessment**

The flipped classroom is usually considered to replace traditional classroom teaching with video (Sams & Bergmann, 2013). In this review, teachers used YouTube video (1, 12, 15), Mediasite video hosting platform (3), online video Blendspace (4), Zoom Video conferencing(10), Present. me (19) and other platforms can record lectures/tutoring videos for students. In addition, videos are distributed to students through various platforms such as Edmodo (1, 19), Khan Academy (22), Moodle (2,5,8,10,13,20,22), Ping Pong (3), Virtual Learning Environment (VLE) (4), Evernote (17) and DokeOS Platform (21). These platforms can provide support for students to interact with classmates and teachers outside the classroom (S. M. P. Schmidt & Ralph, 2016). There are various social networking sites (SNS) that can be used for knowledge sharing, information distribution, and interaction between students, such as Adobe Connect online meeting platform (3), Virtual learning community Google+ (4), Google Drive (4),

Google Wiki (6), Google Apps for Education Platform (10), Blogs, emails, and Skype (13). Various mobile technologies support personalized learning and assessment, such as BODY (1), mobile devices (7), LINE (18). In the practice of flipped classrooms, gamification technologies such as Kahoot gamification education platform (4) and gamification classroom question-and-answer platform Quizalize (14) and Peerwise (16) are also used.

## CONCLUSION

The current study reviewed 23 articles on applying flipped classrooms in higher education published in five major educational technology research journals between January 2014 and December 2020. This study presents the following new findings that hold in the above-selected journals:

1) CAE journals published most of the studies. The least field of study is the arts and medical and health sciences. Undergraduates are the main research subjects in higher education. China has contributed the most to flipped classroom-related research in higher education.
2) Most studies used formative assessment and a combination of formative and summative assessment. Most studies preferred research method is the quantitative research design.
3) There is no control group in most studies, and the main purpose is to optimize the design of flipped classrooms in higher education, to better carry out flipped classroom practice in higher education.
4) Most studies reported significant positive effects on students' academic achievement, motivation, attitudes, perception, satisfaction, and learning engagement. Very few discussed the temporal and institutional challenges of flipped classrooms.
5) The selected article focuses more on the cultivation of students' higher-order thinking abilities, such as creative thinking, reflective thinking, self-directed learning, and five core abilities (communication, collaboration, critical thinking, complex problem solving, and creativity) in higher education by flipped classroom.
6) Course activity design mostly follows Bloom's Hierarchy Theory.

The higher-order cognitive processes in Bloom's educational goals include analysis, evaluation, and creation, while the lower-order cognitive processes include memory, understanding, and application. Bloom's classification of cognitive objectives enables low-order thinking and high-order thinking to be implemented in teaching.

Students' completion of extracurricular tasks helps to improve the quality of interaction in class (Gross, Pietri, Anderson, Moyano-Camihort, & Graham, 2015). In the flipped classroom, students' learning content outside the classroom is low-level cognitive goals (memory and understanding), while the learning content in the classroom is high-level cognitive goals (application, analysis, evaluation, and creation) (Gilboy, Heinerichs, & Pazzaglia,2015). Cooperative learning, inquiry-based learning, and problem-based learning in the classroom can promote classroom interaction and achieve high-level cognitive goals. Moreover, the flipped classroom is not a kind of activity. It is usually interspersed with teachers' explanations, group discussions, and students' demonstration of various activities which teachers are required to design. Moreover, flipped classroom pays more attention to realizing high-level goals from low-level cognitive goals.

There are also various different disciplines adopt different learning activities in extracurriculars and classrooms (Berrett, 2012). For example, liberal arts teachers would choose concept maps and discussions (Kong, 2014), while math teachers would choose to do exercises. Teachers design appropriate worksheets based on teaching objectives to enable students to

achieve high-level cognitive goals (application, analysis, synthesis, evaluation) in a variety of activities (Gasparič,2017). Classroom activities include exercises, past exam questions, discussions, problem-solving, concept maps, jigsaw, role-playing, games, debates, hands-on activities, real-world problem-solving, discovery learning, project-based learning, etc.

In addition, based on the selected journals, flipped classroom applications in Higher Education identified the following major research gaps:

1) The fields of arts, sports, and other disciplines needed more exploration and research that emphasize cultivating practical ability.
2) Investigating the effectiveness of applying flipped classroom methods in different disciplines of higher education needed more research.
3) Application of emerging technologies, such as mobile technology, in flipped classrooms.
4) Investigating the issues and concerns associated with negative perceptions of flipped classroom practices needed more research.

This study provides a synthesis of current research and provides an indicator for future research on applying flipped classrooms in higher education, so it can provide a valuable reference for educators and researchers working in this field.

## REFERENCE


Al-Samarraie, H., Shamsuddin, A., & Alzahrani, A. I. (2017). A flipped classroom model in higher education: a review of the evidence across disciplines. Etr&D-Educational Technology Research and Development. doi:10.1007/s11423-019-09718-8

Al-Zahrani, A. M. (2015). From passive to active: The impact of the flipped classroom through social learning platforms on higher education students' creative thinking. British Journal of Educational Technology, 46(6), 1133-1148. doi:10.1111/bjet.12353

Anthony, T. (2015). Generation Z: Technology and Social Interest. Journal of Individual Psychology, 71(2), 103-113.

Awidi, I. T., & Paynter, M. (2019). The impact of a flipped classroom approach on student learning experience. Computers & Education, 128(JAN.), 269-283.

Azizan, M. T., Mellon, N., Ramli, R. M., & Yusup, S. (2017). Improving teamwork skills and enhancing deep learning via development of board game using cooperative learning method in Reaction Engineering course. Education for Chemical Engineers, 22, 1-13.

Bergmann, J., & Sams, A. (2012). Flip Your Classroom: Reach Every Student in Every Class Every Day. USA: International Society for Technology in Education.

Berrett, D. (2012). How 'Flipping' the Classroom Can Improve the Traditional Lecture. Education Digest, 78(1), 36-41.

Betihavas, V., Bridgman, H., Kornhaber, R., & Cross, M. (2016). The evidence for 'flipping out': A systematic review of the flipped classroom in nursing education. Nurse Education Today, 38, 15-21. doi:10.1016/j.nedt.2015.12.010

Blau, I., & Shamir-Inbal, T. (2017). Re-designed flipped learning model in an academic course: The role of co-creation and co-regulation. Computers & Education, 69-81.

Brewer, R., & Movahedazarhouligh, S. (2018). Successful stories and conflicts: A literature review on the effectiveness of flipped learning in higher education. Journal of Computer Assisted Learning, 34(4), 409-416. doi:10.1111/jcal.12250

Chen, K. S., Monrouxe, L., Lu, Y. H., Jenq, C. C., Chang, Y. J., Chang, Y. C., & Chai, P. Y. C. (2018). Academic outcomes of flipped classroom learning: a meta-analysis. Medical Education, 52(9), 910-924. doi:10.1111/medu.13616

Chen, Y., Wang, Y., Kinshuk, & Chen, N. S. (2014). Is FLIP enough? Or should we use the FLIPPED model instead? Computers & Education, 79(oct.), 16-27.
Cheung, A. C. K., & Slavin, R. E. (2012). How features of educational technology applications affect student reading outcomes: A meta-analysis. Educational Research Review, 7(3), 198-215. doi:10.1016/j.edurev.2012.05.002
Chyr, W. L., Shen, P. D., Chiang, Y. C., Lin, J. B., & Tsai, C. W. (2017). Exploring the Effects of online Academic Help-Seeking and Flipped learning on Imporving Students' Learning. Educational Technology & Society, 20(3), 11-23. Retrieved from <Go to ISI>://WOS:000405589800002
Davies, R. S., Dean, D. L., & Ball, N. (2013). Flipping the classroom and instructional technology integration in a college level information systems spreadsheet course. Educational Technology Research and Development, 61(4), 563-580.
Doo, M. Y., & Bonk, C. J. (2020). The effects of self-fficacy, self-regulation and social presence on learning engagement in a large university class using flipped Learning. Journal of Computer Assisted Learning.
Evans, L., Bosch, M. L. V., Harrington, S., Schoofs, N., & Coviak, C. (2019). Flipping the Classroom in Health Care Higher Education. Nurse Educator,44(2),74-78. doi:10.1097/nne.0000000000000554
Gasparič, R. P. (2017). Flipped Learning: Gateway to Student Engagement. Ceps Journal:center for Educational Policy Studies Journal, 7.
Gilboy, M. B., Heinerichs, S., & Pazzaglia, G. (2015). Enhancing Student Engagement Using the Flipped Classroom. Journal of Nutrition Education & Behavior, 47(1), 109-114.
Gross, D., Pietri, E. S., Anderson, G., Moyano-Camihort, K., & Graham, M. J. (2015). Increased Preclass Preparation Underlies Student Outcome Improvement in the Flipped Classroom. Cbe Life Sci Educ, 14(4).
Hsia, L. H., & Hwang, G. J. (2020). From reflective thinking to learning engagement awareness: A reflective thinking promoting approach to improve students' dance performance, self-efficacy and task load in flipped learning. British Journal of Educational Technology, 17. doi:10.1111/bjet.12911
Huang, B. Y., & Hew, K. F. (2018). Implementing a theory-driven gamification model in higher education flipped courses: Effects on out-of-class activity completion and quality of artifacts. Computers & Education, 125, 254-272. doi:10.1016/j.compedu.2018.06.018
Hwang, G.-J., & Chang, H.-F. (2011). A formative assessment-based mobile learning approach to improving the learning attitudes and achievements of students. Computers & Education, 56(4), 1023-1031. doi:10.1016/j.compedu.2010.12.002
Johnson, J. R. T. (2009). An Educational Psychology Success Story: Social Interdependence Theory and Cooperative Learning. Educational Researcher, 38(5), 365-379.
Kazanidis, I., Pellas, N., Fotaris, P., & Tsinakos, A. (2019). Can the flipped classroom model improve students' academic performance and training satisfaction in Higher Education instructional media design courses? British Journal of Educational Technology, 50(4), 2014-2027. doi:10.1111/bjet.12694
Kong, S. C. (2014). Developing information literacy and critical thinking skills through domain knowledge learning in digital classrooms: An experience of practicing flipped classroom strategy. Computers & Education.
Kong, S. C., & Song, Y. J. (2015). An experience of personalized learning hub initiative embedding BYOD for reflective engagement in higher education. Computers & Education, 88, 227-240. doi:10.1016/j.compedu.2015.06.003

Kurt, G. (2017). Implementing the Flipped Classroom in Teacher Education: Evidence from Turkey. Educational Technology & Society, 20(1), 211-221. Retrieved from <Go to ISI>://WOS:000392040600019
Kyukim, M., Kim, S. M., Khera, O., & Joan, G. (2014). The experience of three flipped classrooms in an urban university: An exploration of design principle. The Internet and Higher Education, 22, 37-50.
Lage, M. J., Platt, G. J., & Treglia, M. (2000). Inverting the classroom: A gateway to creating an inclusive learning environment. Journal of Economic Education,31(1),30-43. doi:10.2307/1183338
Lai, C.-L., & Hwang, G.-J. (2016). A self-regulated flipped classroom approach to improving students' learning performance in a mathematics course. Computers & Education, 100, 126-140. doi:10.1016/j.compedu.2016.05.006
Lee, J., & Choi, H. (2018). Rethinking the flipped learning pre-class: Its influence on the success of flipped learning and related factors. British Journal of Educational Technology.
Lo, C. K., Hew, K. F., & Chen, G. W. (2017). Toward a set of design principles for mathematics flipped classrooms: A synthesis of research in mathematics education. Educational Research Review, 22, 50-73. doi:10.1016/j.edurev.2017.08.002
Loyens, S. M. M., Jones, S. H., Mikkers, J., & Van Gog, T. (2015). Problem-based learning as a facilitator of conceptual change. Learning & Instruction, 38, 34-42.
M.N., G., J., K., & D., S. (2018). Putting Flipped Classroom into Practice: A Comprehensive Review of Empirical Research: Springer.
Marcey, D. J., & Department, B. (2014). The Lecture Hall as an Arena of Inquiry: Using Cinematic Lectures and Inverted Classes (CLIC) to Flip an Introductory Biology Lecture Course.
Maureen, J., Lage, Glenn, J., Platt, . . . Treglia. (2000). Inverting the Classroom: A Gateway to Creating an Inclusive Learning Environment. Journal of Economic Education.
Moher, D., Liberati, A., Tetzlaff, J., Altman, D. G., & Group, T. P. (2009). Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement (Reprinted from Annals of Internal Medicine). Physical Therapy, 89(9).
Murillo-Zamorano, L. R., Sanchez, J. A. L., & Godoy-Caballero, A. L. (2019). How the flipped classroom affects knowledge, skills, and engagement in higher education: Effects on students' satisfaction. Computers & Education, 141. doi:10.1016/j.compedu.2019.103608
Ng, E. M. W. (2018). Integrating self-regulation principles with flipped classroom pedagogy for first year university students. Computers & Education, 126, 65-74. doi:10.1016/j.compedu.2018.07.002
Nikou, S., & Anastasios, E. (2013). Mobile assessment: State-of-the-art.
O'Flaherty, J., & Phillips, C. (2015). The use of flipped classrooms in higher education: A scoping review. Internet and Higher Education, 25, 85-95. doi:10.1016/j.iheduc.2015.02.002
Priporas, C. V., Stylos, N., & Fotiadis, A. K. (2017). Generation Z consumers' expectations of interactions in smart retailing: A future agenda. Computers in Human Behavior, 77, 374e381.
Sailer, M., & Sailer, M. (2020). Gamification of in-class activities in flipped classroom lectures. British Journal of Educational Technology, 16. doi:10.1111/bjet.12948
Sams, A., & Bergmann, J. (2013). Flip Your Students' Learning. Educational Leadership, 70(6), 16-20.
Schmidt, H. G., Molen, H. T. V. D., Winkel, W. W. R. T., & Wijnen, W. H. F. W. (2009). Constructivist, Problem-Based Learning Does Work: A Meta-Analysis of Curricular

Comparisons Involving a Single Medical School. Educational Psychologist, 44(4), 227-249.
Schmidt, S. M. P., & Ralph, D. L. (2016). The Flipped Classroom: A Twist On Teaching. Contemporary Issues in Education Research, 9(1), 1.
Sousa, M. J., & Rocha, á. (2019). Leadership styles and skills developed through game-based learning. Journal of Business Research, S0148296318300572.
Stohr, C., Demaziere, C., & Adawi, T. (2020). The polarizing effect of the online flipped classroom. Computers & Education, 147. doi:10.1016/j.compedu.2019.103789
Strayer, J. F. ( 2012). How learning in an inverted classroom influences cooperation, innovation and task orientation. Learning Environ Res, 15, 171-193. doi:10.1007/s10984-012-9108-4
Thai, N. T. T., De Wever, B., & Valcke, M. (2017). The impact of a flipped classroom design on learning performance in higher education: Looking for the best "blend" of lectures and guiding questions with feedback. Computers & Education, 107, 113-126. doi:10.1016/j.compedu.2017.01.003
Thai, N. T. T., Wever, B. D., & Valcke, M. (2020). Face-to-face, blended, flipped, or online learning environment? Impact on learning performance and student cognitions. Journal of Computer Assisted Learning, 36(3).
van Alten, D. C. D., Phielix, C., Janssen, J., & Kester, L. (2019). Effects of flipping the classroom on learning outcomes and satisfaction: A meta-analysis. Educational Research Review, 28. doi:10.1016/j.edurev.2019.05.003
van Leeuwen, A., Bos, N., van Ravenswaaij, H., & van Oostenrijk, J. (2019). The role of temporal patterns in students' behavior for predicting course performance: A comparison of two blended learning courses. British Journal of Educational Technology, 50(2), 921-933. doi:10.1111/bjet.12616
Wang, F. H. (2017). An exploration of online behaviour engagement and achievement in flipped classroom supported by learning management system. Computers & Education, 114, 79-91. doi:10.1016/j.compedu.2017.06.012
Wang, F. H. (2019). On the relationships between behaviors and achievement in technology-mediated flipped classrooms: A two-phase online behavioral PLS-SEM model. Computers & Education, 142. doi:10.1016/j.compedu.2019.103653
Wanner, T., & Palmer, E. (2015). Personalising learning: Exploring student and teacher perceptions about flexible learning and assessment in a flipped university course. Computers & Education, 88, 354-369. doi:10.1016/j.compedu.2015.07.008
Yılmaz, R.(2020). Enhancing community of inquiry and reflective thinking skills of undergraduates through using learning analytics-based process feedback. Journal of Computer Assisted Learning.
Yorganci, S. (2020). Implementing flipped learning approach based on 'first principles of instruction' in mathematics courses. Journal of Computer Assisted Learning(1).
Zainuddin, Z. (2018). Students' learning performance and perceived motivation in gamified flipped-class instruction. Computers & Education, 126, 75-88. doi:10.1016/j.compedu.2018.07.003

# AN INVESTIGATION INTO FACTORS INFLUENCING UFLS THIRD-YEAR STUDENTS' MOTIVATION IN STUDYING TRANSLATION AND INTERPRETING ONLINE

Vo Thi Kim Anh, Nguyen Thanh An, Nguyen Khai Tam & Tran Thi Thu
Faculty of English, University of Foreign Language Studies,
The University of Danang, Vietnam
vtkanh@ufl.udn.vn, thanhan1420@gmail.com, nguyenkhaitam942001@gmail.com,
thutran1972001@gmail.com

## ABSTRACT

The coronavirus disease 2019 (COVID-19) has had a tremendous impact on people all over the world, leading to a broad-based disruption of education. Most universities in Vietnam including UFLS transferred face-to-face classrooms to online learning. This study was conducted to investigate factors influencing students' motivation and the difficulties they encounter when studying Translation and Interpreting in virtual classes. The data was collected by means of a questionnaire. The study employed IBM SPSS Statistics Software for quantitative data analysis mixed with the thematic analysis method for the analysis of open-ended questions. The findings of the study revealed that teachers, classmates, interests in subjects, values and self-regulated learning are factors playing a pivotal role for students in strengthening motivation when taking online classes. Situational problems, the dependence on translation tools as well as lack of interaction and self-efficacy, are found to be detrimental impacts on students' motivation. It is highly recommended that group activities and self-study are effective ways to keep learners motivated in online classes.

**Keywords**: English, speaking skill, end of course oral test, solutions, first-year students

## INTRODUCTION

The COVID-19 pandemic has had a massive effect on most sectors across the globe, including education. With great efforts to prevent the pandemic, the government has introduced different solutions to reduce its wide and quick spread namely keeping a minimum distance between individuals, banning mass gathering, closing schools and workplaces as well as limiting travel. Due to the seriousness of Covid 19 pandemic, third-year students at Faculty of English, the University of Foreign language Studies, UFLS, UD must take the majority of their compulsory courses online.

A number of domestic and foreign studies were conducted with the aim to explore the motivations and attitudes of students when attending virtual classes on online learning platforms. In general, studies demonstrate a certain understanding of motivation and attitudes in online classrooms. However, the solutions and knowledge mentioned in their research are general and those studies do not address motivation issues of a particular subject or a specific course. Therefore, the study was conducted in order to better understand the factors influencing UFLS third-year students' motivation when studying Translation and interpreting online as well as the difficulties that the learners encounter in maintaining motivation when studying two subjects. In addition, the research also suggests solutions to enhance students' motivation in these subjects in online classes.

## LITERATURE REVIEW

### Concept of Motivation

The process of initiating, guiding, and maintaining goal-oriented activities is known as motivation. It is what motivates you to take action, whether it is drinking a glass of water to quench your thirst or reading a book to learn something new. Motivation does not just refer to the factors that activate behaviours; it also involves the factors that direct and maintain these goal-directed actions (though such motives are rarely directly observable). As a result, we often have to infer the reasons why people do the things that they do based on observable behaviors (Jeffrey (2013)).

### Motivation Classification

Different types of motivation are frequently described as being either extrinsic or intrinsic. According to Ryan & Deci (2000), "Extrinsic motivation is a construct that pertains whenever an activity is done in order to attain some separable outcome." (p. 60). Extrinsic motivations are those that arise from outside of the individual and often involve rewards such as trophies, money, social recognition, or praise. On the other hand, intrinsic motivation refers to the desire to expend efforts based on interest in and enjoyment of the work itself (Amabile, Hill, Hennessey, & Tighe, 1994; Gagne & Deci, 2005; Ryan & Deci, 2000). Intrinsic motivation is the act of completing an activity for the pleasure of doing the activity itself (Baranek, 1996). Intrinsic motivation is typically contrasted with extrinsic motivation—the desire to expend efforts to obtain outcomes external to the work itself, such as rewards or recognition (Amabile, 1993; Brief & Aldag, 1977).

### Motivation in Online Courses

Online learning has been a huge trend in education across the world, particularly in the context of the Covid-19 epidemic. According to Bertea (2009), some experts claim that online learning is a method of teaching that uses multiple technological integrations, while others suggest that it is a substitute for distance learning, which is facilitated by the use of the internet and regarded as an effective means of rapid communication. Students are able to learn from home while still being able to engage with their friends, listen to lectures, watch recorded lectures at their leisure, and even participate in online discussion thanks to advances in technology (Sulaiman, Shaid, & Kamaruzaman 2021).

When it comes to online learning settings, another subject that requires in-depth investigation is motivation (Burston,2003). Campbell and Sarac(2018) proposed that technology is increasingly being implemented into language instruction in order to increase students' motivation and enhance their comprehension of the topic.

### Translation and Interpreting

The process of replacing textual content in one language (source language) with equivalent textual material in another language is known as translation (target language) (Catford, 1965). Translation, according to another definition, is the process of finding a target language equivalent to a source language speech. (Pinchuck, 1977, p. 38). In terms of interpreting, it means "to transfer orally a text from one language to another".

In University of Foreign Language Studies - the University of Danang, Translation and Interpreting courses are designed for third-year and fourth-year students of the English Language Program. The aim of the translation course is to improve students' knowledge and skills in translating various types of documents in both English and Vietnamese. The interpreting course, on the other hand, aims to expose students to a variety of interpreting tasks so that they can apply their linguistic and cultural knowledge to handle interpretation assignments and practice interpretive skills ranging from fundamental to intermediate levels of difficulty in content, accent, speed, and length of speech.

Studying Translation and Interpreting subject at university involves a wide range of different skills. However, these subjects have also points of similarity. Due to the limitation of time, knowledge as well as the shortage of reference materials, it will be impossible to cover all aspects of learners' motivation in each subject in the research. As a consequence, this study just concentrated entirely on influencing factors that have a similar impact on the two subjects.

**Previous Studies**

A group of researchers- Davis, Bagozzi, and Warshaw (1992) - implemented an investigation into the role of intrinsic motivation, extrinsic motivation, and perceived ease of using computers. In this study, it was found that there was a positive relationship between intentional behaviors and extrinsic motivation, a positive relationship between extrinsic motivation and intrinsic motivation, and other relationships. Nayakama et al.(2014) investigated the impact of learner's characteristics and learning behavior on learning performance during a fully online course and claimed that extrinsic motivation, such as the learning environment, and internal motivation, such as personalities, have differing effects on students. In addition, motivation in online courses in recent research revealed the diversity and variety of motivation factors, such as teachers, classmates, organizational and situational problems, satisfaction of course content, self-management, self-efficacy, task value, locus of control, and study process (Evelyn & Dennis 2007; Mese & Sevilen 2021).

In a study, factors of acceptance and use of urgent online learning during the Covid-19 pandemic among third year-students taking an English course at the University of Danang, Vietnam- implemented by Phan, Vo, Nguyen, Hoang (2021) suggested that "motivation has boosted students' persistence in performing online tasks" (p. 48). This research provided a wide and deep knowledge in online learning motivation as well as recommended efficient solutions for the difficulties that third-year students encounter. Furthermore, students' study habits have a significant impact on their perception of technological efficiency in online learning. Students are accustomed to traditional modes of learning, but due to Covid - 19 pandemic, they are forced to adapt to new forms of learning (Phan et al. 2020).

## METHODOLOGY

**Research Questions**

For the fulfilment of the objectives of the study, the research attempts to answer the following questions:

1. What are the factors influencing UFLS third-year students' motivation when studying Translation and Interpreting online?
2. What are the difficulties that the learners encounter in maintaining motivations when studying two subjects in online classes?
3. What are solutions for enhancing students' motivations in performing in Translation and Interpreting subjects online?

**Research Design**

In the study, the quantitative research methodology was conducted to collect the information in the real context. The data was collected via a questionnaire whose items consisted of statements for responses with Attitude questions on a Likert scale of 1-5 (particularly, 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree and 5 = strongly agree), multiple-choice, closed questions and open-ended question. Both quantitative and qualitative data were analysed to address the research questions.

## Instrument

The Questionnaire was administered entirely online through Google form. In light of the study goals, a closed questionnaire with 5-points Likert scale and three themes were created: factors influence on the extrinsic motivation and intrinsic motivation of students, then suggest solutions for enhancing third-year students' motivation in learning Translation and Interpreting online.

Each theme was accompanied by a number of items that were used to collect data from the respondents. Each of the first two themes includes four dimensions, each of which has three questions. Figure 1 and 2 show the eight dimensions that emerged into the questionnaire survey.


**Figure 1:** Extrinsic factors affecting motivation


**Figure 2:** Intrinsic factors affecting motivation

In order to investigate factors influencing UFLS third-year students' motivation in learning Translation and Interpreting online, this study adopts the eight dimensions with the statements and questions collected from previous research. The statements related to teachers, interests of subjects, value and self-efficacy were built on the research by Hinler (2018), classmates by Tuan, Chin & Shieh (2005), situational problems by Ullah, Khan & Khan (2017), self-regulated learning by Chung (2020). Besides, they were made simpler as well as created to suit UFLS third-year students studying Translation and Interpreting online.

The last theme is to suggest solutions for enhancing third-year students' motivation in learning Translation and Interpreting online. In addition to one multiple-choice question, there are two open-ended questions concerning routines and methods for increasing the motivation of students when studying Translation and Interpreting online.

## Participants

The participants of the research are third-year students at the Faculty of English at University of Foreign Language Studies - the University of Danang, who have studied Translation and Interpreting in the academic year 2021-2022. There are 118 respondents in our random survey.

## Reliability and Validity

The survey's participants are third-year students, who are approaching specialized subjects, whereas first-year students mostly study fundamental subjects and fourth-year students primarily spend time practicing since the school's specialized topics were almost finished.

According to the reliability statistics and descriptive statistics: the Cronbach's Alpha is .827, suggesting that the questionnaire has relatively high reliability.

**Data Analysis**

Quantitative data were analyzed by using Statistical Package for the Social Sciences (SPSS). Descriptive Statistics were calculated to determine the mean scores of the factors affecting students' motivation in translating and interpreting subjects for online learning. To analyze the qualitative data collection, we use the method of thematic analysis, which finds themes in the answers of respondents.

## FINDINGS

**Factors Influencing UFLS Third-Year Students' Motivation when Studying Translation and Interpreting**

The 5-point scale questionnaire was utilized for the research. The interval is 0.8 (i.e. Interval =N-1/N, N=5). It indicates that from 1.00 to 1.80 represents "Strongly disagree"; from 1.81 until 2.60 represents "Disagree"; from 2.61 until 3.40 represents "Neutral"; from 3.41 until 4.20 represents "Agree"; from 4.21 until 5.00 represents "Strongly agree".

**Factors Influence on the Extrinsic Motivation of Students when Studying Translation and Interpreting Online**

**Table 1:** Mean Value of the Questions of the Extrinsic Motivation of Student Questionnaire

| Descriptive Statistics | | | | | |
|---|---|---|---|---|---|
| | N | Minimum | Maximum | Mean | Std. Deviation |
| Teachers | 118 | 1.00 | 5.00 | 4.1412 | 0.72848 |
| Classmates | 118 | 1.67 | 5.00 | 3.7260 | 0.75439 |
| Situational problems | 118 | 1.33 | 5.00 | 3.8842 | 0.83077 |
| Tools | 101 | 1.00 | 5.00 | 3.7333 | 0.75306 |
| Valid N (listwise) | 101 | | | | |

**Teachers**

Class teachers in online education were reported to have affected students' motivation extrinsically. With the mean value of 4.02, the majority of students stated that the flexibility of teaching approaches applied into lessons play a pivotal role in enhancing juniors' interest. Most survey respondents agreed that punctual and clear feedback from the lecturer can help students learn better and attract them to participate in the process of learning and acquiring knowledge more easily (mean values = 4.31). In addition, many students believed that professors frequently provide specific comments to each student, which will allow students to actively examine their own capabilities and improve their efficiency (mean values=4.10).

According to the data collection, with roughly 4.14, most respondents agreed with statements represented in the questionnaire, which proves the significant role of teachers in increasing third-year students' motivation in online learning.

**Classmates**

Many students supposed that they are willing to take part in online Translation and Interpreting classes because they can receive feedback and sharing good ideas with their peers (mean values= 3.83). Additionally, with the mean value of 3.75, more than a half of the participants confirmed that they are willing to attend online Translation and Interpreting classes to perform better than other students. Greater competition may enhance students' extrinsic motivation during two online courses. It is notable that the interaction factor has the lowest mean index of the three classmate factors (mean values = 3.59).

As can be seen from the table, with approximately 3.7, classmates are an important factor in developing students' motivation.

**Situational Problems**

Research results showed that learning conditions have a significant impact on students' learning motivation. Slow digital devices (Laptop, computer, smartphone, etc.) and the poor internet connections can discourage learning online (mean value = 3.86). Besides, with the mean value of 4.14, many survey respondents supposed that reading from printed learning materials is much easier than reading from a screen. The environment where students take online classes is also considered as one of the most important factors to decide whether they are interested in studying through virtual platforms or not. A great number of participants agreed that unwanted background noise in their learning environment has an adverse effect on their study (mean value = 3.64).

With the aforementioned statements in the questionnaire, many juniors agreed that situational problems have a negative influence on students' motivation.

**Translation Tools**

The study investigated the use of machine translation in translation classes as a facilitating tool at tertiary education, as well as some of the problems that participants may have encountered during online learning 101/118 UFLS English Language Department students confirmed that they used translation tools in the course of online translation and interpreting.

With data surveyed in the questionnaire, it can be seen that the majority of third-year students use translation tools namely Google translate, online dictionaries, otter.ai, PROMT Master, which account for up to approximately 85.5%. Meanwhile, the number of students refusing to use translation tools represents only 14.5% of the total. Therefore, translation tools are vital in the studying online of most third-year students of UFLS.

**Table 2:** The Number of Students Using Translation Tools

| **Question 10: Do you use Translation tools when translating?** | **THE NUMBER OF PARTICIPANTS** | **PERCENTAGE** |
|---|---|---|
| **YES** | 101 | 85.5% |
| **NO** | 17 | 14.5% |

As can be shown, many juniors use translation tools regularly, which leads to the dependence of digital translation appliances (mean value = 3.92) and they thought that these tools make them lazy to complete translating tasks before class (mean value = 3.59). The good point is that instead of utilizing translation tools to translate the full text, they merely use the dictionary to look up new vocabularies, with a mean value of 3.68.

**Factors Influence on the Intrinsic Motivation of Students when Studying Translation and Interpreting Online**

**Table 3:** Mean Value of the Questions of the Intrinsic Motivation of Student Questionnaire

| Descriptive Statistics | | | | | |
|---|---|---|---|---|---|
| | N | Minimum | Maximum | Mean | Std. Deviation |
| Interests of subjects | 118 | 2.33 | 5.00 | 4.1977 | 0.66128 |
| Value | 118 | 2.00 | 5.00 | 4.2994 | 0.64699 |
| Self-efficacy | 118 | 1.67 | 5.00 | 3.2542 | 0.74813 |
| Self-regulated learning | 118 | 2.00 | 5.00 | 3.6723 | 0.72923 |
| Valid N (listwise) | 118 | | | | |

**Interests of Subjects**

The interest of subjects can directly promote learning by increasing attention and engagement. According to the collected data, with a mean value of 4.19, students expressed that the interest of subjects is one of the crucial elements in boosting the intrinsic motivation of those who participate in the courses. Most third-year students strongly agreed that they are very interested in the content area of the Translation and Interpreting subjects (mean value = 4.38). Interest can hold a student's attention, make a stronger effort, and support learning. The more students are concerned about the subjects, the more they will engage in the material over time and explore the topic further.

In addition, with a mean value of 3.93, many juniors indicated that they are willing to do assignments, which they can learn from even if there is no guarantee of a good grade. They also showed that the most satisfying thing for them is to understand the contents as thoroughly as possible (mean value = 4.28). It seems like the majority of students attend Translation and Interpreting online classes due to the importance of these two subjects and preferable knowledge rather than joining the meeting to get higher scores.

**Value**

The value of Translation and Interpreting learning can be seen through improving students' language skills, learning the theory related to these subjects as well as their application to or influence on practical translation and interpretation work. It is important that the majority of students expressed a positive attitude regarding the value of Translation and Interpreting subjects (mean value = 4.29).

With a mean value of 4.26, most respondents agreed that they can apply what they learn from Translation and Interpreting subjects to other courses. Moreover, the course materials are deemed valuable and meaningful by respondents on students' motivation in a virtual setting. The reason is that they help learners to broaden their knowledge through various topics in the materials (mean value = 4.41).

Furthermore, juniors found the activities and classes relevant to their targets, especially their future career goal. They believed that what they learn from the courses would support their professional jobs as translators or interpreters in the near future (mean value = 4.23).

**Self-efficacy**

Respondents indicated lower mean scores (mean value = 3.25) for self-efficacy compared to the other three dimensions. Even though the participants reported varying degrees of self-efficacy, with a mean value of 3.59, one thing they agreed on is that students make sure to understand the Translation and Interpreting contents no matter if they are easy enough or not.

Besides, this study found out that the participants are not self-confident to deal with Translation and Interpreting online learning and their tests (mean value= 3.19). Interestingly, most respondents were either neutral or disagreed about the statement "When texts and audios are too difficult, I give up or only do the easy parts" (mean value = 2.97).

**Self-regulated Learning**

For the dimension of self-regulated learning, it is a crucial part of online learning, and respondents in this study revealed that they seek assistance when facing problems while learning online (mean value = 4.09).

Besides, research results showed that while students carry out their own study plan in learning online, they could learn more effectively (mean value = 3.83). Due to the online setting, learners could feel free to decide when, where and how they study so that they can reach a good result at the end of the semester.

Most significantly, with a mean value of 3.09, students are frequently distracted during virtual classes by other online activities such as WhatsApp, Instagram, Facebook, Tiktok, etc. In other words, keeping motivation and discipline at the desired level is relatively tough for those who take part in a virtual class. As can be observed from the table, with nearly 3.67, self-regulated learning is considered as a necessary element in strengthening juniors 'motivation in two online courses.

**Difficulties that the Learners Encounter in Maintaining Motivations when Studying two Subjects in Online Classes**

According to the study results, 22.9% of participants strongly agreed and 31.4% agreed that the lack of interaction with other students impacts their extrinsic motivation when studying Translation and Interpreting online, while 28.8% had no idea.

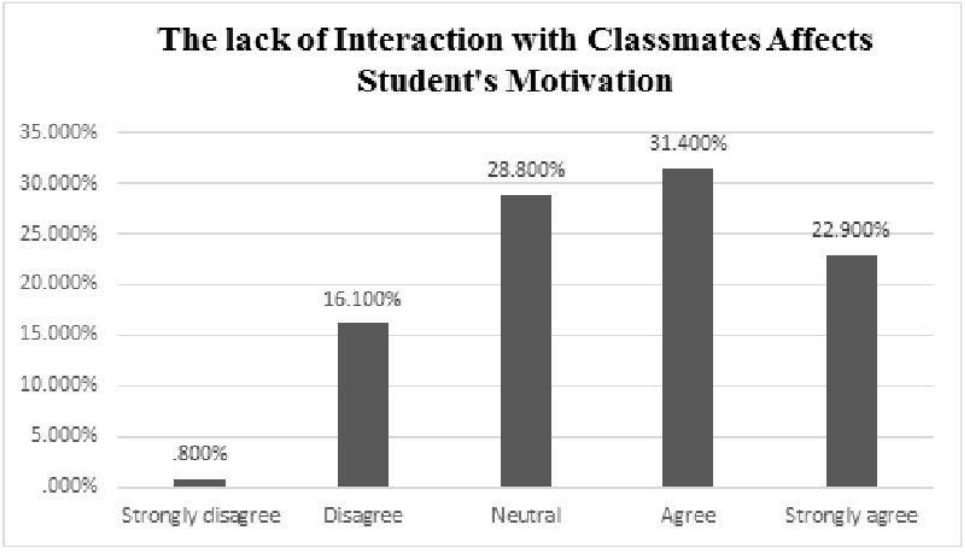



**Figure 3:** Interaction Affecting Student's Motivation when Studying Online in View of Students

In terms of situational problems, while the majority figure of 37.3% juniors strongly agreed and 28.8% agreed that poor quality of devices and low internet connection discourages learners participating in the online class, 20.3% were neutral. However, there were 10.2% students, who disagreed, and merely 3.4% strongly disagreed with this fact.

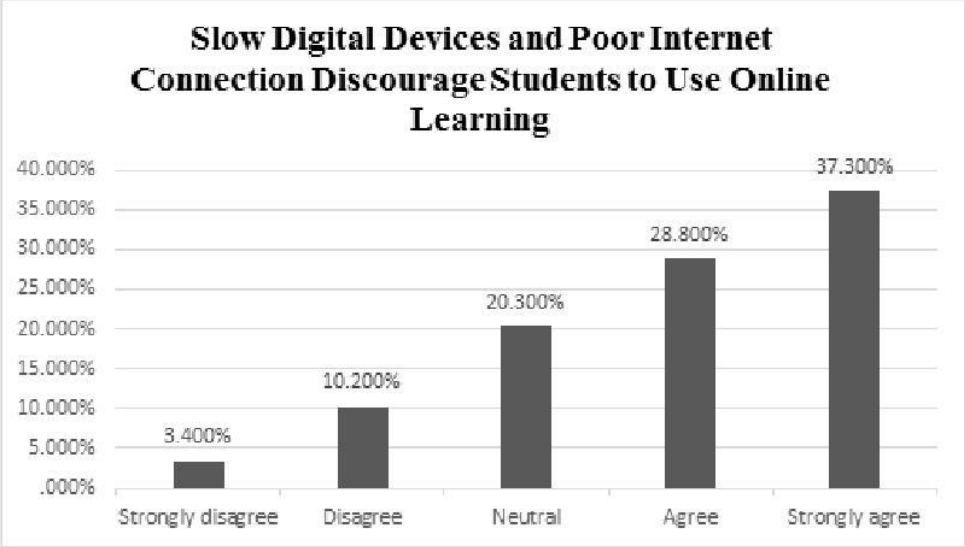



**Figure 4:** Slow Digital Devices and Poor Internet Connection Affecting Student's Online Learning

Moreover, as shown from the survey, reading on digital devices is another difficulty third-year students have to face during learning online when 54.2% respondents strongly believed "It is easy to read from print learning materials instead of electronic medium or internet." Learners are also miserable with distance education because of the learning environment. 29.7% participants strongly agreed and 30.5% agreed that the learning environment with unwanted background noise has a negative impact on their online study process, while 13.6 % disagreed and 5.9% strongly disagreed. 20.3% had no idea.

The overuse of translation tools has a considerable impact on the motivation to study two subjects. 32.4% respondents strongly agreed and 40% agreed with the idea "Using Translation tools frequently make me depend on them, which has an impact on my capacity of translating and prevents me from correctly assessing my own skill". Only 6.7% disagreed and 2.9% strongly disagreed. 18.1% stayed neutral.

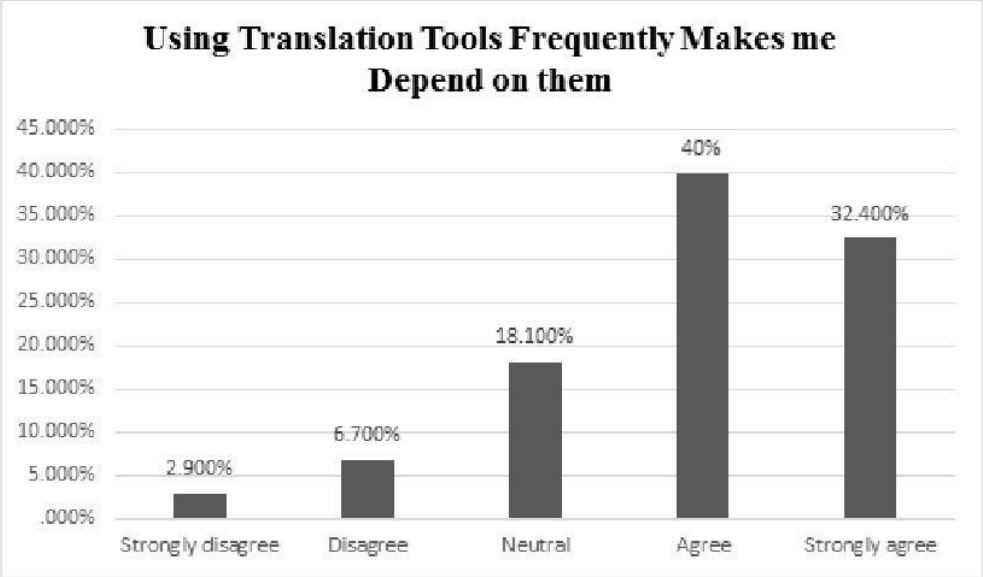



**Figure 5:** Using Translation Tools in View of Students

In addition, students are distracted a lot by social media while studying online. 11.9% strongly disagreed and 21.2% disagreed that they are not interrupted by other online activities (WhatsApp, Instagram, Facebook, Tiktok). Due to studying at home, they do not fully concentrate on the lecture and are easy to surf the Internet when it is online instead of learning in person.

**Solutions to Enhancing Students' Motivation in Performing in Translation and Interpreting Subjects Online**

With all recommendations from respondents, students are allowed to give personal suggestions in improving motivation in two online courses.

**Table 4:** Ways to Increase Motivation when Studying Translation and Interpreting Online

| THEME CODE | THE NUMBER OF STUDENTS |
|---|---|
| The limit of using translation tools | 1 |
| Self-study | 58 |
| Extrinsic motivation from<br>- Interesting lessons and teachers<br>- Friends<br>- Professional people<br>- Videos<br>- Environment | 39 |
| Self-discipline | 13 |
| Future job | 6 |
| Relaxing | 4 |
| Tuition fees | 1 |

According to data collection, with 58 students, the majority of third-year students supposed that self-study activities such as regularly creating a specific learning schedule to practice Translation and Interpreting skills on a daily basis is a dominant method to strengthen their motivation in studying two subjects during the online course. In addition, the second rank of 39 students admits that they can find inspiration through watching interesting videos, attending helpful lessons, and meeting professional people and friends. Besides, it can be seen that there is no significant gap amongst the rest of elements.

## DISCUSSION

The findings of this study show that the students' motivation in learning Translation and Interpreting online are influenced by various factors. The role of a teacher is very important in gaining learning motivation. The findings are in line with the study conducted by Ushida (2005), which reported that teachers have an essential part in creating a classroom culture and impact students' motivation. In this study, detailed feedback that satisfied students was found to be a motivation booster. Evelyn Knowles and Dennis Kerkman (2007), conducting a study, claimed that students generally did not miss the interaction with the instructors and did not lack feedback from the instructors. According to Meşe, E. & Sevilen, Ç. (2021), participants' extrinsic and intrinsic motivation was lower in learning foreign languages when compared to face to-face education and the researchers put forward a lack of interaction with peers and teachers as the reason why students are less motivated in online courses. Moreover, many students struggle to access online learning smoothy due to the weak Internet connection as well as a noisy learning environment. The study of Hodges (2020) indicated the similar result that the transformation from face-to-face classes to online learning can be detrimental for students because they have difficulty adjusting to technology.

In addition, the findings of this research showed that self-regulated learners have higher levels of motivation to study online. Broadbent & Poon (2015) found that the self-regulated learning technique in tertiary online learning has been shown to be helpful in enhancing academic success and encouraging students to become independent individuals in learning.

## IMPLICATION

The implication of the study indicated a thorough analysis of factors influencing the motivations of the UFLS third-year students when attending Translation and Interpreting online classes. The contribution of the research provides a wide knowledge of third-year students' motivation for teachers in educating and training Translation and Interpreting in online classrooms. Realizing the difficulties students encounter in virtual platforms, higher education institutes may have a particular strategy for improving and applying more appropriate methods of online learning in Translation and Interpreting education. Furthermore, the result of this study can give students a great source of information, which they can apply to enhance their motivation in studying these two subjects in practice. If learners deeply understand which elements impact their learning online process, they can make some more proper adjustments in order to improve their academic performance.

## CONCLUSION

The study investigates factors influencing UFL-UD third-year students' motivation in Translation and Interpreting online learning. The analysis of the survey data allows us to draw some important conclusions related to these issues. While teachers and classmates are positive factors in strengthening the extrinsic motivation of third-year students in learning

Translation and Interpreting online, situational problems and translation tools show opposite effects. In terms of intrinsic motivation, interest of subjects, values and self-regulated learning are crucial elements to keep learners attending online classes, but the respondents had mixed reactions regarding self-efficacy. In addition, the result of this study points out the difficulties that students encounter during the online learning period including the lack of interaction with other students, slow digital devices, poor Internet connection and unwanted background noise, as well as lack of self-efficacy and distraction from other online activities. Finally, self-study is considered as the most effective way for students to stay motivated in learning Translation and Interpreting online. Conducting several detailed research into the real levels of third-year students and holding more Translating and Interpreting online contests are recommended for the university in order to enhance students' interest in the two subjects.

## REFERENCES


Amabile, T. M. (1993). Motivational synergy: Toward new conceptualizations of intrinsic and extrinsic motivation in the workplace. Human Resource Management Review, 3(3), 185-201.

Amabile, T. M., Hill, K. G., Hennessey, B. A., & Tighe, E. M. (1994). The Work Preference Inventory: Assessing intrinsic and extrinsic motivational orientations. Journal of Personality and Social Psychology, 66(5), 950 -967. DOI: 10.1037/ 00223514665950

Baranek, L. K. (1996). The effect of rewards and motivation on student achievement (Master's thesis). Grand Valley State University. http://scholarworks.gvsu.edu/theses/285

Bertea, P. (2009). Measuring Students' attitude towards e-learning A case study. Proceedings of the 5th International Scientific conference on online learning and software of Education, Bucharest Romania, 1-8.

Brief, A. P., & Aldag, R. J. (1977). The intrinsic-extrinsic dichotomy: Toward conceptual clarity. Academy of Management Review, 2, 496-500. https://doi.org/10.5465/amr.1977.4281861

Broadbent, J., & Poon, W. L. (2015). Self-regulated learning strategies & academic achievement in online higher education learning environments: A systematic review. The Internet and Higher Education, 27, 1-13. https://doi.org/10.1016/j.iheduc.2015.04.007

Burston, J. (2003). Proving IT works. CALICO journal, 20, 219-226.

Campbell, C. & Sarac, B. (2018). The role of technology in language learning in the twenty-first century: Perspectives from academe, government, and the private sector. Hispania, 100(5), 77-84.

Catford, J. C. (1965). A Linguistic Theory of Translation. An Essay in Applied Linguistics. London: Oxford University Press.

Chung, E., Noor, N. M., & Vloreen Nity Mathew. (2020). Are You Ready? An Assessment of Online Learning Readiness among University Students. International Journal of Academic Research in Progressive Education and Development, 9(1), 301-317.

Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1992). Extrinsic and intrinsic motivation to use computers in the workplace. Journal of Applied Social Psychology, 22(14), 1111-1132. https://doi.org/10.1111/j.1559-1816.1992.tb00945.x

Fowler, S. (2018). The motivation to learn online questionnaire. M.A. Thesis. The University of Georgia

Gagne´, M., & Deci, E. L. (2005). Self-determination theory and work motivation. Journal of Organizational Behavior, 26(4), 331-362. DOI: 10.1002/job.322

Hartnett, M. (2011). Examining motivation in online distance learning environments: Complex, multifaceted, and situation-dependent. International Review of Research in Open and Distributed Learning, 12(6), 20-38.
Hodges, C., Moore, S., Lockee, B., Trust, T., & Bond, A. (2020). The difference between emergency remote teaching and online learning. EDUCAUSE Review, 27, 1-12.
Jeffrey, S. N. (2013). Psychology: Concepts and applications. Belmont, CA: Wadsworth Cengage Learning.
Knowles, E., & Kerkman, D. (2007). An Investigation of Students Attitude and Motivation toward Online Learning. Directory of Open Access Journals, 2, 70-80.
Knowles, E., & Kerkman, D. (2007). An Investigation of Students Attitude and Motivation toward Online Learning. Directory of Open Access Journals, 2, 70-80.
Knowles, E., & Kerkman, D. (2007). An Investigation of Students Attitude and Motivation toward Online Learning. Directory of Open Access Journals, 2, 70-80.
Meşe, E. & Sevilen, Ç. (2021). Factors influencing EFL students' motivation in online learning: A qualitative case study. Journal of Educational Technology & Online Learning, 4(1), 11-22.
Meşe, E. & Sevilen, Ç. (2021). Factors influencing EFL students' motivation in online learning: A qualitative case study. Journal of Educational Technology & Online Learning, 4(1), 11-22.
Meşe, E. & Sevilen, Ç. (2021). Factors influencing EFL students' motivation in online learning: A qualitative case study. Journal of Educational Technology & Online Learning, 4(1), 11-22.
Nakayama, M., Mutsuura, K., & Yamamoto, H. (2014). Impact of learner's characteristics and learning behaviour on learning performance during a fully online course. Electronic Journal of E - learning, 12(4), 394 - 408.
Phan, N. D. L., Vo, T. Q. A., Nguyen, H. N., & Hoang, T. P. T. (2021). Factors of acceptance and use of urgent online learning during the Covid-19 pandemic among third year-students taking an English course at the University of Danang, Vietnam. International Journal on E - learning pratices, 2, 41-60.
Phan, T. N. T., Nguyen, N. T., & Nguyen, T. P. T. (2020). Attitudes of regular students when experiencing online learning during the time of Covid-19 epidemic prevention. Journal of Science Open University Ho Chi Minh City, 15 (4), 18-28.
Pinchuck, I. (1977). Scientific and Technical Translation. London: André Deutsch.
Ryan, R. M., & Deci, E. L. (2000). Intrinsic and Extrinsic Motivations: Classic Definitions and New Directions. Contemporary educational psychology, 25(1), 54 - 67.
Shaid, N. A. N., Kamruzaman, F. M., & Sulaiman, N. A. (2021). Online Learning During Ongoing Covid-19 Pandemic: A Survey of Students' Satisfaction. International Journal of Academic Research in Business and Social Sciences, 11(7), 924-937.
Tuan, H. L., Chin, C. C., & Shieh, S. H. (2005). The development of a questionnaire to measure students' motivation towards science learning. International Journal of Science Education, 27(6), 639-654.
Ushida, E. (2005). The role of students' attitudes and motivation in second language learning in online language courses. CALICO Journal, 49-78.

# ENHANCING RURAL STUDENTS' SPEAKING SKILLS THROUGH DIGITAL STORY VIDEO PRODUCTION AS MULTIMEDIA TECHNOLOGY-ASSISTED PROJECT-BASED LEARNING: CONCEPTUAL PAPER

Kennedy Yamil

Faculty of Psychology and Education, Universiti Malaysia Sabah
kenzy142@hotmaill.com

**ABSTRACT**

Despite English Language is taught as a subject in the Malaysian primary schools, the language however is often used only during English class and not practiced because there is no call for its use outside the classroom. Based on the perspective of teacher as a researcher, the problem occurred due to the lack of exposure and usage of English Language particularly in the rural area and communities which indirectly affected student's motivation and proficiency in communicating in the language because they have less opportunity to use the target language. Therefore, the researcher proposes a strategy to enhance students' speaking skills through a production of a digital story video project as a consequence of the application of technology and multimedia in a project-based learning task.

**Keyword:** Digital story, video project, project-based learning, speaking skills, rural school students

## INTRODUCTION

The integration of Information and Communication Technology (ICT) in teaching and learning is getting more prominent in schools in Malaysia. The recent and still on-going Covid-19 pandemic has changed and impacted the education landscape of the country as the paradigm shifts from face-to-face teaching and learning style into remote learning via online or it is well known as the home-based learning and teaching (PdPR) among teachers in Malaysia. The use of digital technology and e-content is no longer a likely alternative as remote teaching has assimilated to become a new norm. We are in the era of digitisation of education (Embracing online teaching during the pandemic: New Straits Times, 2020). For that reason, teachers regardless of level or places of teaching must strive to learn to use and adapt technology in their teaching to enhance teaching and learning whether inside or outside of the classroom.

The Malaysia Education Blueprint 2013-2025 highlighted students in schools do not only learn how to use ICT but are able to leverage it effectively to enhance their learning. As we are currently in Wave 3 (2021-2025) of the implementation of the blueprint, ICT should be fully embedded throughout the pedagogy and curriculum of the education system.

Technology integration is defined as how teachers perceive and use technology to perform any teaching and learning activities more effectively and how the usage of technology can support the activity (Gilakjani, 2017). In this 21st century teaching and learning, teachers need to be flexible in improvising their teaching. They need to explore beyond the traditional and normal classroom methods and familiarize themselves with new methodologies in keeping with the present era. The use of technology will enhance classroom teaching and learning through "creating opportunities for learners to complete

assignments on the computer rather than the normal pencil and paper" (Ahmadi, 2018, p. 117). It will help to trigger and encourage students' critical and creative learning thus attaining a meaningful and holistic learning.

In this 21st century teaching and learning, the integration of Information and Communication Technology (ICT) in teaching and learning is no longer an option, but it is a must regardless the demography of the schools be it urban, rural or remote rural. Students' use of ICT is believed to have a positive impact in their learning as "it helps student in enhancing their collaborative learning skills as well as developing transversal skills that stimulates social skills, problem solving, self-reliance, responsibility and the capacity for reflection and initiative" (Ghavifekr & Rosdy, 2014, p. 5).

## BACKGROUND OF THE STUDY

Rural primary schools have less exposure of the language because of their environment where the usage of English Language is not prominent. Due to that, English Language may even fall into third language within the rural community. English is not considered as a second language and is not used communicatively due to the frequent use of their native ancestral language in the rural community in Sabah (Ameirul, Suyansah & Sheikh Badrul, 2019). The only exposure these rural students have are only 300 minutes a week of English class at school (Ameirul & Suyansah, 2017). This will indirectly demotivate the students to learn the language (Zein, 2017).

In a rural school in Kudat, Sabah, through an observation and interview, the researcher found out that his students are not interested to speak in the language because there is no one to speak with other than the teacher. The medium of instruction in the village is only their mother tongue and the Malay Language. Therefore, English Language is only seen as a subject taught in school that they need to pass in the written examination. These students are not able to see the usage of the target language outside their classroom hours and this indirectly leads them to not well verse with the usage of the target language in real life situation or tasks. This affected the student's achievement in the Classroom Based Assessment (CBA). The achievement in the Classroom Based Assessment (CBA) of a class in that school also showed that most students performed poorly in speaking, reading and writing. English is demanding to master because students do not have many opportunities to practice what they have learned outside the classroom (Megawati, 2016)

Furthermore, challenges in education in the rural areas may involve internet and communication access (Soe, 2018). This is the exact case scenario of the researcher's school. The lack of network coverage limits students in this community from assessing English media due to the lack of network coverage. The economic status is also a factor, where most of the family here do not own a laptop or an advanced smartphone. Technological advances have not been as significant in this area as in the city.

One of the pedagogical approaches to engage students in the rural area in utilizing ICT tools in language learning is through multimedia technology-assisted project-based learning. Multimedia technology-assisted project-based learning will not only expose these students to ICT as visioned in the Malaysian Education Blueprint 2013-2025, but it would also provide them a chance to conduct and work on a hands-on project that is real life related which will encourage them to practice the target language outside their school hours.

## LITERATURE REVIEW

### Project Based Learning

The roots of project-based learning are reflected through Dewey (1986) philosophy where students learn through discovery and experience of through hands on approaches (Williams,

2017). Project based learning is a constructivist pedagogy that intends to bring about deep learning by allowing students to use an inquiry-based approach to engage with issues and question that are rich, real and relevant to the topic being studied (Markham, 2012). The learning is based on several theoretical ideas which are active construction, situated learning, social interactions, and cognitive tools as cited in Miller & Krajcik (2019).

In short, project-based learning integrates knowing and doing in learning (Bhagi, 2017) where students apply their knowledge to produce a meaningful project instead of just answering test papers and evaluation of their studies is only based on their marks and grades from the written tests. Furthermore, it does not only support students in gaining deeper insights on their learning but project-based learning is also acknowledged to has the capability of promoting social and emotional learning. Indirectly, project-based learning subsequently "contributes to the development of students' creativity, internal motivation and interest, responsibility, communication skills with others, social skills, cooperation, and problem-solving ability" (Shin, 2018, p. 97).

Project Based Learning is often described as an alternative for the traditional classroom-based learning of for inactive learning and rotary memorization (Dogara et. al., 2020) as it provokes "the needed level of thinking to apply new knowledge in a problem-solving context" (Bhagi,2017). The comparison between traditional classroom-based learning and project-based learning approach is summarized in Figure 1 and Figure 2.


**Figure 1:** The traditional classroom-based learning approach

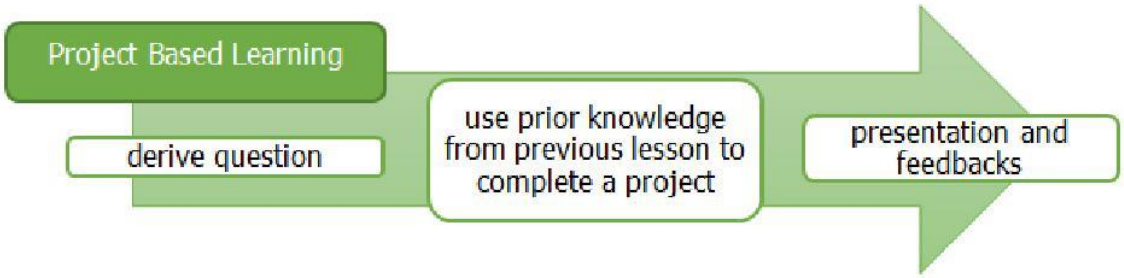



**Figure 2:** The project-based learning approach

In project-based learning, students are the centre of learning who are learning actively to improve their competences (Koparan & Guven, 2014). It is a method that places students at the pivot of the learning process (Nepal & Jenkins, 2011). Project-based learning focuses on training students for a successful life in a knowledge-based environment, in particular in the fields of problem-solving abilities, teamwork skills, communication skills, resource management skills and personal skills where the teacher usually present challenges in a project-based learning strategy which students need to address the issues together collaboratively in teams (Aldabbus, 2018). Students undertake a problem-solving venture via in-depth project collaboratively with their peers.

**The integration of technology in project-based learning**

The integration of technology in project-based learning can be categorized into two, it can whether be technology-supported or multimedia technology-assisted (Indrawan, Jalinus & Syahril, 2018). In technology-supported project-based learning, the technologies are often used as communication tools, research tools, scaffolding tools, project management tools, and telecollaboration tools whereby in a multimedia technology-assisted project-based learning, however, such technologies are often used as production tools that enable students to organize and present their research work through multimedia (Indrawan, Jalinus & Syahril, 2018). The current research aimed to implement a multimedia technology-assisted project-based learning where students utilize multimedia devices and software such as computer tablet and video editor app to create a multimedia project. By integrating technology in Malaysian Education Curriculum through project-based learning, student competencies which consist of communication, collaboration, creation and critical thinking can be enhanced (Hoe et. al., 2019).

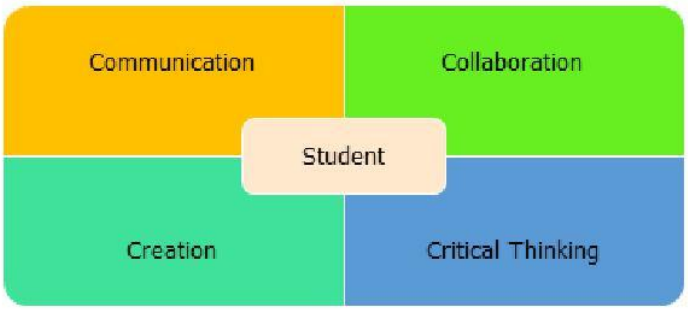



**Figure 3:** Technology in project-based learning will enhance students' competencies in four aspects (Hoe et. al., 2019)

**The implementation of digital story video project as multimedia technology-assisted project-based learning**

Digital story is telling a story using multimedia. Multimedia can be described as the combination of various digital media types, such as text, images, sound, and video, into an integrated multi-sensory interactive application or presentation to convey messages or information to the audience (Somjai, Soontornwipast, 2020). The users can combine text, audio, music, videos and pictures to create a digital story (Reinders, 2011).

Teachers can assign students to develop a digital story which can be done individually or in a small group (Robin, 2008). This will improve students' knowledge and academic skills as they would do research on the topic given, search for materials and create a digital story (Alismail, 2015). Aside from that, digital storytelling also promotes 21st century skills such as digital literacy skills, global skills, technology literacy skills, visual literacy skills and information literacy skills (Robin, 2008).

The implementation of the digital story video project as a project-based learning can be put into action based on the syntaxes in project-based learning model which is developed by Hosnan (2016) in Figure 4.


**Figure 4:** Syntaxes of Project Based Learning by Hosnan (2016)

The implementation of digital story video project based on the Project Based Learning Model developed by Hosnan (2016) could be implemented as the following steps:

1. Determining Project

In this step, the students, in their respective groups, determine the topic of their video project based on the tasks instructed and derived by the teacher. Teacher will first provide the essential knowledge such as the vocabulary that the students will use in their production of digital story. Examples of workable projects are food recipes and village tour hobbies.

2. Project Steps Planning

Teacher provides a video recording and editing course to the students, teaching them on how to use the multimedia tools and software.

3. Schedule Preparation

The teacher provides briefing for students on the timeline of task completion. The task could be done outside their classroom time.

4. Monitoring

Teacher will monitor and facilitate each group progress. Teacher will only act as a facilitator and guide students' whichever area that needed to be guided.

5. Reports Preparation and Presentation

The students need to present their video in the class or to the web.

6. Evaluation of Project

The teacher will evaluate each group's video. During this stage, students are given the opportunity to talk about their experience and reflections after completing the project.

**Student crafted digital story video production as a project-based learning in English class**

In a project-based learning, students plan, implement, reflect, and evaluate their own learning by working on authentic tasks, such as solving problem or task which is constructed based on real-world issues (Westwood, 2008). It will also elevate student's willingness in learning. A successful implementation of project-based learning can raise students' motivation in learning English by being fully involved (Childers, 2020; Hava, 2019; Shin, 2018; Clark, 2017).

Students' participation in project-based learning using technology has motivated them to learn and incorporate the use of English vocabulary and the actual language in use

when performing a team project (Shin, 2008). A study by Hava (2019) found out that there were significant improvements in students' self-confidence and personal use after the digital storytelling activity. She also found out that digital storytelling could be beneficial for facilitating speaking skills in the target language. Childers (2020) in his research found out that pronunciation would be find great benefit in the implementation of the project. He also added that teacher can benefit from listening to students' pronunciation outside of the pressures of class, and note if there are differences between in-class and out-of-class pronunciation skills.

Another research of integrating video project in a rural school by Santi, Suherdi & Mustapa (2019) also found out that students have an improvement in their English skills upon project completion. It can be noted that such project could enhance students in their language learning. Their research however also exposed limitations of conducting the project. One of the limitations was the difficulties in creating and editing the video as it was their first time in doing an ICT project. Nevertheless, the students were able to finish their video on-time. Besides that, some students also found difficulties in composing the video in the target language; therefore the researcher had to give instruction in L1 but in a little portion. Despite the limitations, students were able to practice communicating in the target language. It gave students, particularly students in the remote rural area to have a chance of utilizing the English Language outside their classroom. The implementation of students' crafted video project would create fun and effective task projects and it help students to improve their speaking skills with less stress (Childers, 2020).

## The Implementation of Digital Story Video Production as a Project-Based Learning in Rural School

Since classroom time is limited, out-of-class practice that specifically focuses on speaking is the key to provide more time on the practice (Childers, 2020). Therefore, giving task such as project-based learning would give them time to practice the language even after school as the project would be done collaboratively based on students' preferred time during the completion period.

Table 1 summarizes the lesson plan for the multimedia technology-assisted project-based learning for Year 4 students. The theme and topic are adapted from their English textbook that is provided by the Ministry of Education of Malaysia, Get Smart Plus 4 (Mitchell & Malkogianni, 2019) while the module and skills are adapted from the Primary School (SK) Standard Curriculum for English Language Year 4 (Curriculum Aligned Documents) produced by the Curriculum Development Division of the Ministry of Education of Malaysia.

**Table 1:** Lesson plan for the multimedia technology-assisted project-based learning for Year 4 based on the textbook and Standard Curriculum for English Language Year 4

| **LESSON PLAN (PROJECT BASED LEARNING)** | |
|---|---|
| **YEAR** | Year 4 |
| **SUBJECT** | English Language |
| **THEME** | World of self, family and friends |
| **TOPIC** | Module 5: Eating right |
| **MODULE** | Speaking |
| **SKILLS** | Content Standard:<br>2.1 Communicate simple information intelligibly<br><br>Learning Standard:<br>2.1.3 Give a longer sequence of basic instructions or directions |

| | |
|---|---|
| **OBJECTIVES** | At the end of the lesson, students will be able to orally give a sequence of basic instructions of a food recipe. |
| **TEACHING MATERIALS** | (9) Computer tablets equipped with video and voice recorder and Google Playstore video editing apps such as InShot, Viva Video, Filmora Go, Film Make Pro and Power Director, Get Smart Plus 4 Student's Book, |
| **PEDAGOGY (STRETEGY/TEACHING ACTIVITIES)** | Project Based Learning<br>Title: Food Recipe<br><br>Week 1:<br>Teacher introduces Module 5: Eating Right where students are exposed to the vocabulary intended for the lesson and for the project.<br><br>Week 2:<br>Teacher divides students into 9 groups and asks each group to prepare a digital story video on a food recipe of their choice based on their creativity.<br><br>Teacher conducts a video recording and editing course to students. The students are taught how to use the computer tablet that is provided to each group and how to manage and utilize the Google Playstore video editing apps such as InShot, Viva Video, Filmora Go, Film Make Pro and Power Director.<br><br>Week 3-6:<br>In their respective group, students plan, record, edit and prepare their video. The activity is to be done after school during their free time so that it would not interfere with their other subjects. As these students live nearby to each other and some stayed in the school hostel, it is an advantage for them to gather and discuss. The researcher, who lives in the teacher's quarters also has a flexible time in monitoring and facilitating the students if they needed any assistance.<br><br>Week 7:<br>Submission and presentation of each group's videos to the class. The videos would also be uploaded in a video sharing platform in the web.<br><br>After the presentation, teacher conducts a discussion and feedbacks session with the students. The topics of discussion are their experience crafting the digital story video, the problems and challenges that they encountered while completing the project and future improvement and perhaps suggestion on future video topic. |

For this project, students are to create and craft a digital story video on a food recipe of their choice. Students are allowed to choose whether to record a video or take photos and arrange them accordingly to make a reel. However, it is a compulsory for them to

include their voice narration inside the video in order for the researcher to evaluate student's speaking ability. The focus of video evaluation would be on the student's pronunciation, the suitability of word, appropriateness of the language and the execution of the video editing.

## CONCLUSION

This strategy is expected to motivate rural students to speak in the target language thus enhancing and improving their speaking skills. It is expected to provide adequate information and knowledge which could enhance the teaching and learning process and also to suggest the best teaching activity in encouraging and providing a platform for these rural students to practice speaking and communicating using the target language. It is essential for them to master the language as English Language is deemed to be one of the required skills in today's workforce. The findings and outcomes can offer contribution to the study.

In addition, one of the strategic and operational shifts stated in the Malaysian Education Blueprint 2013-2025 is to bridge the urban-rural digital divide in the country's schools. As this strategy promotes 21st century learning skills and inculcate soft skills in using some multimedia tools and software, therefore this strategy could be one of the ways to promote the shifts mentioned. These skills should be mastered by rural students as their urban counterparts are more advanced with technologies.

Consequently, the use of technology is beneficial and advisable in language learning and teaching. If utilizing digital story project as a project-based learning could improve rural students' speaking and communication skills, then the strategy should be promoted to enhance Malaysian Primary English as a Second Language classroom.

## REFERENCES


Ahmadi, M. R. (2018). Mohammad Reza Ahmadi 1*. International Journal of Research in English Education (IJREE), 3(2), 115-125.

Aldabbus, S. (2018). Project-based learning: Implementation & challenges. International Journal of Education, Learning and Development, 6 (3), 71-79.

Alismail, H. A. (2015). Integrate Digital Storytelling in Education. Journal of Education and Practice, 6(9): 126-130.

Ameirul, A., & Suyansah, S. (2017). ESL Teaching in Rural Schools: An Investigation of Teachers' Stress and Coping Strategies. International Conference on Language Studies, Kuching, Sarawak, 9-10 August 2017, 506-514.

Ameirul, A., & Suyansah, S. & Sheikh Badrul, J. A. (2019). Coping with stress: Exploring the lived experiences of English teachers who persist in Malaysian rural schools. Indonesian Journal of Applied Linguistics, 8, 506-514. doi: 10.17509/ijal.v8i3.15249

Bhagi, U. (2017, January 19). 12 Reasons Why Project-Based Learning Is Better Than Traditional Classroom Learning. Retrieved from https://elearningindustry.com/project-based-learning-better-traditional-classroom

Childers, G. (2020). Student-Created Videos as ESL Homework Assignments (Master's thesis, University of San Fransisco). Master's Projects and Capstones. Retrieved from https://repository.usfca.edu/capstone/989.

Clark, B.A. (2017). Project Based Learning: Assessing and Measuring Student Participation (Master's project).

Dogara, G., Saud, M., Kamin, Y., & Nordin, M.S. (2020). Project-Based Learning Conceptual Framework for Integrating Soft Skills Among Students of Technical Colleges. IEEE Access, 8, 83718-83727.

Embracing online teaching during the pandemic: New Straits Times. (2020, November 25). Retrieved from https://www.nst.com.my/news/nation/2020/11/644079/embracing-online- teaching-during-pandemic

Ghavifekr, S. & Rosdy, W.A.W. (2015). Teaching and learning with technology: Effectiveness of ICT integration in schools. International Journal of Research in Education and Science (IJRES), 1(2), 175-191.

Gilakjani, A. P. (2017). A review of the literature on the integration of technology into the learning and teaching of English language skills. International Journal of English Linguistics, 7 (5), 95-106. doi: 10.5539/ijel.v7n5p95.

Hava, K. (2019). Exploring the role of digital storytelling in student motivation and satisfaction in EFL education. Computer Assisted Language Learning, 1-21.

Hoe, L. S., Chuan, T. C., Hussin, H., & Jiea, P. Y. (2019). Enhancing Student Competencies Through Digital Video Production: A Project-based Learning Framework. Journal of Business and Social Review in Emerging Economies,5(1),51-62. doi:10.26710/jbsee.v5i1.508

Hosnan, M. (2016).Pendekatan Saintifik dan Kontekstual dalam Pembelajaran Abad 21. Bogor: Penerbit Ghalia Indonesia.

Indrawan, E., Jalinus, N. & Syahril, S. (2019). Review Project Based Learning. International Journal of Science and Research (IJSR). 8. 1014 - 1018.

Koparan, T., & Guven, B. (2014). The Effect On The 8th Grade Students' Attitude Towards Statistics Of Project Based Learning. European Journal of Educational Research, 3(2), 73-85. https://doi.org/10.12973/eu-jer.3.2.73

Malaysia education blueprint 2013-2025: Preliminary report. (2012). Putrajaya, Malaysia: Kementerian Pelajaran Malaysia.

Markham, T. (2012). Project Based Learning Design and Coaching Guide, Heart IQ Press.

Megawati, F. (2016). Kesulitan Mahasiswa dalam Mencapai Pembelajaran Bahasa Inggris Secara Efektif. Jurnal Pedagogia. 5(2). 147-156.

Miller, E. C., & Krajcik, J. S. (2019). Promoting deep learning through project-based learning: a design problem. Disciplinary and Interdisciplinary Science Education Research, 1(1), 1-10.

Mitchell, H.Q., & Malkogianni, M. (2019). Get Smart Plus 4 Student's Book. Kajang, Selangor: NND Enterprise.

Nepal, K. P. & Jenkins, G. A. (2011), Blending project-based learning and traditional lecture-tutorial-based teaching approaches in engineering design courses, in AAEE 2011: Bridging sustainable community development and social justice: the next ethical challenge for humanitarian engineers: proceedings of the22nd annual AAEE Conference on Engineering Education 5-7 December 2011. 338-343.

Primary School Standard Curriculum, Curriculum Aligned Documents for English Language (SK) Year 4 (2nd ed.). Putrajaya: Curriculum Development Division of the Ministry of Education of Malaysia.

Reinders, H. (2011). Digital Storytelling in the Foreign Language Classroom. ELTWO Journal. 3.

Robin, B. R. (2008). Digital storytelling: A powerful technology tool for the 21st century classroom. Theory into Practice, 47(3): 220-228.

Shin, M. (2018). Effects of Project-based Learning on Students' Motivation and Self-efficacy.

Somjai, S. & Soontornwipast, K. (2020). The Integration of Implicit and Explicit Vocabulary Instruction, Project-Based Learning, Multimedia, and Experiential Learning to Improve Thai EFL Senior High School Students' Vocabulary Ability. Arab World English Journal. 6. 171-190.

Soe, H. Y. (2018). Challenges for the Development of Education in Rural Area of Myanmar, https://www.researchgate.net/publication/335791156_Challenges_of_Qualified_Rural _Teacher _Education_in_Myanmar

Westwood, P. S. (2008). What teachers need to know about teaching methods (Aust Council for Ed Research). Victoria: Acer Press.
Williams, M. (2017). John Dewey in the 21st Century. Journal of Inquiry and Action in Education, 9, 91-102.
Zein M. S. (2017). Elementary English education in Indonesia: Policy developments, current practices, and future prospects. English Today. 33(1). 53-59.

# A CASE STUDY OF ENGLISH LANGUAGE STUDENT TEACHERS' CREATIVITY POTENTIAL

Anne Richard Wong
Faculty of Psychology and Education, Universiti Malaysia Sabah
anneling85@gmail.com

## ABSTRACT

Student teachers taking the Teaching of English as Second Language (TESL) program need to be creative in implementing the ESL curriculum in Malaysia. Creative student teachers can motivate school students to learn English Language creatively. In the past, boring language lessons had become a barrier to successful language acquisition. In this regard, the authors examined the creative abilities of thirty-two 1st and 2nd year TESL student teachers taking a Bachelor of Education course in a public university in Sabah, East Malaysia in term of their abilities to generate ideas via providing creative title with a short story. Creative potentials of the subjects were measured by a computer system. Findings revealed that 65.6% of the sample was in the moderate and creative category. Among the reasons identified in this study for producing fewer ideas in such activity were lots of reading (53.1%), the difficulty in predicting the outcome of the story (46.9%) and the lack of experience about the characters in the picture (56.3%). However, those who were found to be very creative were those who scored distinctions in English Language at SPM level ('0' Level). Data also showed that higher English Language competency can improve creativity. The majority of the TESL student teachers surveyed also enjoyed the ideas generation activity and were thrilled to find out that such activity is able to improve their creative thinking abilities in language teaching, in particularly ESL. The researcher recommends that creative components be made an important element in future T & L activities.

**KEYWORDS:** Creativity, Language learning, Originality, Fluency, Flexibility, Elaboration

## INTRODUCTION

Products of innovations and creations come from creativity. Selection of problems and analysis (critical thinking) and then evaluate and solve the related problems are part of the creative thinking process (Treffinger et al., 2000). As Treffinger et al. (2000) pointed out, "we begin at a single point or with a single question, but extend our search in many different directions, generating a wide variety of new possibilities". Divergent thinking or creativity or mentioned in the Guilford's Structure of Intellect Model (Guilford, 1988) has led researchers to a better understanding of intellectual abilities and has also led to the formulation of some tests for creativity, noticeably divergent tests for measuring creativity.

The teaching of English as a second language (ESL) in Malaysia faces a big challenge in terms of quality teaching materials as well as quality assignments related to the topic being taught. School students are in dire need of materials that can promote them to be creative while school teachers too are needed to be trained to teach creatively. This study explores the use of a creativity measurement system to measure the creativity traits of university undergraduates. It exposed them to a creativity technique named "ideas

generation" via the brainstorming technique. Divergent thinking or fluency is used as the basic measurement of creativity (Torrance, 2000). The research questions are:

1) What are the creativity levels of university undergraduates?
2) Can brainstorming technique improve ideas generation in the teaching and learning process?
3) Do high academic achievers have better fluency scores compare to others?

## REVIEW OF LITERATURE

### Creativity Traits

Sometimes, creative people are referred to as "insane" simply because they love to do unusual things or may love to "goes it alone". These thoughts may be true to some extent. However, creative people are neither strange nor unconventional but have worked hard to innovate and create fresh ways of looking at and solving problems. Lubart (2001) perceived that creative people use novel but appropriate way to come out with high quality original work.

### Brainstorming approach to creativity

To be successful in innovation and invention students need to be actively involved in generating ideas. Creativity training program that are geared towards ideas generation such as "brainstorming" play a very crucial role in ensuring supplies of ideas. Brainstorming is a method for stimulating the spontaneous generation of ideas (Vidal et al., 2004). In brainstorming sessions, there should be no criticism during the activity in order to obtain free of judgement, relaxed atmosphere and free flows of ideas.

### Measurable Creativity Traits

In this study, the researchers designed a test which is activity-based that uses brainstorming method to promote the generation of ideas. It requires the subjects to provide suitable titles for a given picture. The picture acts as a stimulus to the creative thinking process. Torrance (2000) suggested four measurable creativity traits namely fluency, flexibility, elaboration and originality. Guilford's famous measure of divergent thinking is the fluency trait where all ideas generated are counted. It is generally accepted that divergent thinking is considered as a kind of shorthand for creativity (Torrance, 2000).

According to Torrance (2000), fluency score of a person is accounted for by summing up the total numbers of ideas a person generates while originality is defined as statistically infrequency and unusualness of an idea. In other words, if the idea belongs to 5% of total ideas generated by the whole sample, it is considered as unusual and awarded 1 point and if in the 1% category, it will be considered unique and thus awarded 2 points (Guildford, 1967 in Dow, 2006).

### Past Studies on Creativity

In Malaysia, not many researches have been done to investigate the creative abilities of the population. Creativity levels of university undergraduates are surprising average in Malaysia. Tan(2004) use the Torrance's TTCT test to measure creativity traits of university undergraduates of all disciplines at a public university in Sabah, East Malaysia. Results showed that 43.9% (156 out of 278 subjects) of the undergraduates were not creative.

In another study by Ustaa and Akkanat (2015) on scientific creativity levels, a total 300 students were measured. Results showed the 51.4% of respondents were able to gather 72.93 out of 142.00 points that were accounted for. This proved that creativity levels could be improved with appropriate method. In the Malaysia context, the researchers hope that this study will contribute additional knowledge on the creative abilities of Malaysians to the creativity research communities.

## METHODOLOGY, SAMPLING AND INSTRUMENT

### Method

This study used case study to explore student teachers' creativity potential. According to McCombes (2022), case study uses qualitative method to measure and analyze phenomena or qualitative constructs investigated in the study. With this, the researchers will have an in-depth understanding of the observed variables in the study.

### Sample

This is a case study consisting of a sample of 32 undergraduates from a public university in Sabah, East Malaysia. This group of subjects takes TESL courses in the Faculty of Education of the university. The subjects were not randomly selected and belonged to a selected group of students taking a TESL course in the university. As a result, no generalization of the findings is intended in any part of the discussions.

The subjects are from a combination of Year 1 and Year 2 undergraduates with 7 male and 25 female subjects. The more feminine nature of this sample was not intentional. It happened that the enrolment of this class was as such at the point of the study.

### Instrument

The respondents were given a creativity test. Besides a creativity test, the researchers also surveyed the subjects' views related to the fluency of giving ideas. The first instrument, the creativity test, the subjects were asked to study the provided picture and gave ten interesting titles in the given worksheet. The picture for the activity is shown in Diagram 1. The answers to the test will be inputted into a computer software to analyze the four sub-constructs of creativity namely originality, fluency, flexibility and elaboration.

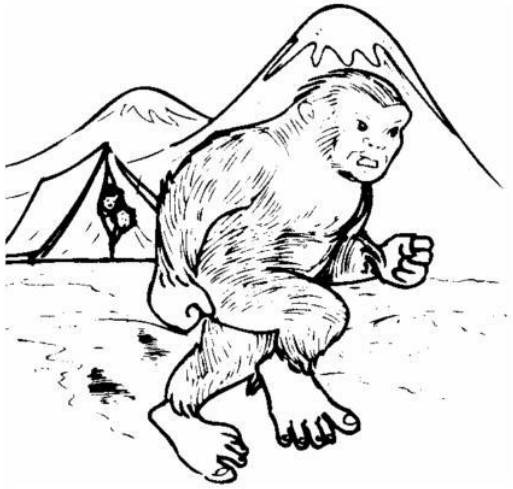


**Diagram 1:** The picture for the creativity test

The second instrument is an 11-item questionnaire to tap subjects' views on ideas generation related to this test. The subjects select "Yes" or "No" response for each item. The main aim is to seek their views on factors or reasons related to ideas generation which is also a great influence for creativity especially the fluency factor.

## FINDINGS AND DISCUSSION

### The creativity level of the subjects

The creativity test is the only means to investigate the subjects' creativity level or status. The collected worksheets that contained the "ideas" about the picture are inputted into a

computer system that is specially developed to generate a respondent's creativity level based on typed inputs. After the test, the raw data (inputs) given by them were keyed into the system by the researcher. A sample screen shot of the software is shown in Diagram 2.


**Diagram 2:** The creativity assessment software

The system will be able to generate the creativity levels of the subjects after all the "ideas" are inputted into it. The total number of ideas generated by the subjects in this study is 71 with a frequency of 153. A general analysis of the subjects' ideas showed that the subjects tend to give ideas that are normal. A normal idea refers to one that is within the mental thoughts of everyone in the sample.

The researcher found that ideas that are quite normal for this picture are "gorilla/monkey/ape, King Kong, mountain, camping and scared boys". As one subject commented in the "other reason" slot of the questionnaire, he said "The picture only shows a big monkey, so people may likely to talk only about monkey". This is an example of a person who may not score much in the creativity test because he does not demonstrate that his thinking power will go extra miles. On the other hand, a creative person may harp on issues such as that "ape has special abilities too".

The result indicated that among the most normal titles are "King Kong" (Frequency = 16), "Ape Man" (Frequency = 14) and "Legend of Bigfoot" (Frequency = 12). As for outstanding titles, they are "The Curse", "Darwin Theory: Fact or Myth", "Humans in Fur" and "It Comes Back" (each title with Frequency = 1).

In relation to creativity scoring, ideas that are normal or outstanding are given 1 point for "fluency" for each idea. However, the scoring on "originality" for a particular idea will depend on its number of frequencies. If too many subjects provide the same title (idea), then it is only considered as a normal idea. In this study, the scoring criteria are based on Guildford's Alternative Uses Task (1967) in Dow (2006) as shown in Table 1.

**Table 1:** Scoring for originality according to Guildford's Alternative Uses Task (1967) in Dow (2006)

| Percentage of frequencies | Frequency | Originality Score |
|---|---|---|
| 1% of total frequency (153) = 1.53 or approximately 2 | 1 to 2 | 2 |
| 5% of total frequency (153) = 7.65 or approximately 8 | 3 to 8 | 1 |
| More than 5% | more than 8 | 0 |

Therefore, if based on the calculated scoring criteria in Table 1, for example, the originality score for the title "King Kong" (Frequency = 16) that was mentioned earlier is 0 while for title "The Curse" (Frequency = 1) will be awarded 2 points. Each subject will have scores for fluency, elaboration, flexibility and originality. The total score for the add-up of the 4 components is called Creativity Index or refers to in this study as the creativity level of the subjects. The subject with the highest creativity index score is 41. According to (Torrance et al., 1992), the range between the lowest score (zero) and highest score is divided equally into the different categories that are needed. In this study, it is divided equally into 3 categories of creativity level as shown in Table 2.

**Table 2:** Criteria for setting creativity level

| Creativity Index Score | Creativity Level |
|---|---|
| 0 to 13.66 | Not creative (Level 1) |
| 13.67 to 27.33 | Moderate creative (Level 2) |
| 27.34 to 41 | Creative (Level 3) |

Based on the criteria mentioned above, the researchers continue to analyze the creativity levels of the subjects in the sample. The study showed that 21 out of 32 subjects (65.6%) belong to the moderate and creative category (Level 2 and 3) while 11 out of 32 subjects (34.4%) were not creative (Level 1).

**Ideas Generation: An Examination**

As the test required the subjects to give only 10 titles for the picture, therefore the maximum fluency score for a subject is 10. The researcher divided the analysis of fluency scores into 2 levels. The first level is allocated with score from 0 to 5 while the second level is from score 6 to 10. The result is shown in Table 3.

**Table 3:** Distribution of fluency scores

Count

| | | Gender | | |
|---|---|---|---|---|
| | | Male | Female | Total |
| Levels of Fluency | 1 | 5 | 18 | 23 |
| | 2 | 2 | 7 | 9 |
| Total | | 7 | 25 | 32 |

The table showed that there are 23 subjects (71.9%) who scored from 0 to 5 while 9 of them (28.1%) scored from 6 to 10 for fluency. Further analysis on the 9 subjects (28.1%) showed that only 2 managed to give ten titles (ideas) while the remaining 7 gave between 6 and 9 titles. This showed that only a low 28.1% (9 subjects) of the total 32 subjects managed to provide more than 5 ideas (out of 10 required). This is quite a serious poser because it seemed to indicate that these undergraduates (the subjects) who will become

school teachers later on are short of ideas. Or, are they not competent in English Language that caused them the inability to provide ideas? This question needs to be investigated further.

The researcher did a cross-tabulation between the creativity levels of the subjects and their respective English grades at Sijil Pelajaran Malaysia (SPM) or the 'O' Level equivalent for foreign qualification. It was found that 8 out of 11 subjects whose grade is distinction in English fell into the Level 1 and 2 (not creative and moderate creative category) (Refer Table 4). This proved that language is not a hindrance to creativity in this test because even those who are considered very competent in the language (5 of them who scored distinction) did not seem to contribute enough ideas to the test and hence in Level 1. Is not this strange?

**Table 4:** Cross-tabulation between English grade and creativity levels

Count

| | | English Grade in SPM | | | |
|---|---|---|---|---|---|
| | | Distinction | Credit | Pass | Total |
| Creativity Level of Respondents | 1 | 5 | 5 | 1 | 11 |
| | 2 | 3 | 14 | 1 | 18 |
| | 3 | 3 | 0 | 0 | 3 |
| Total | | 11 | 19 | 2 | 32 |

Level 1: Not creative (creativity score: 0 - 13.66)
Level 2: Moderate creative (creativity score: 13.67 - 27.33)
Level 3: Creative (creativity score: 27.34 - 41)

The researcher also investigated another strong possibility or factor that can affect ideas generation. One of the 11 items in the questionnaire asks the subjects "Do you like story telling?" and the result was that 81.3% or 26 out of 32 subjects responded that they like story telling. Of the 9 subjects who scored 5 and above for Fluency (refer Table 3), only one subject did not like story telling. The majority liked story telling. This finding proved that the role of storytelling in promoting creativity could not be ruled out. The role played by storytelling in promoting creativity is fully supported by Turner (1994), a premier researcher in story telling activity.

If language is not a good factor that influences creativity, then there are certainly other factors that are associated with the functioning of ideas generation. The researchers analyzed the feedbacks from the 11-item questionnaire attached together with the test. The feedbacks indicated that "experience in life" (43.8% of the subjects), "lots of reading in the past" (53.1%) and "discussion with my friends" (25%) are factors that contribute to the idea generation process.

Experience in life helps a person to study a problem more thoroughly and may be able to associate many different components into acceptable ideas. This point is fully supported by Cropley (1997) and Gardner (1999) who stated that a lot of experience comes from the implementation of the national curriculum during the schooling days. For example, the scary elements in the gorilla may be done away with by associating it with hilarious elements such as "The Wig or Mask" which is man-made rather than the real, creeping scenario as perceived in the picture. Lack of reading may bring about lack of ideas. For example, lack of knowledge on technology will not let a person think of the gorillas as the future invading species of mankind as illustrated in the book, "The Planet of The Apes". The importance of reading to update knowledge is an important fact in promoting anybody's creativity (Cropley, 1997).

The researcher also identified other reasons for producing fewer ideas in such activity. They were "the difficulty in predicting the outcome of the story" (46.9%) and "the

difficulty to figure out important words for each title" (28.1%). The reasons were especially true for those subjects who were not as good with the "resistance to premature closure" concept as explained by Torrance (1990). Torrance explained that premature closure often happens to a person who is impatience and wants a conclusion quickly. This person is not bothered to think many steps further to formulate other possible solutions or to create unusual association of concepts related to the problem under study. This person also neither likes nor interested in doing predictions. For example, in this study there were instances where subjects gave only two or three normal ideas just to satisfy the test condition and nothing "special" came out of them. Can we brand these subjects as creative when there was little evidence to suggest that they had put in any hard work?

Another reason was "the lack of experience about the characters in the picture" (56.3% of the subjects). Experience with the environment and characters in the picture are an important reason that helps to generate many related ideas. Concrete experience lends support to the generation of ideas, concepts and models that are easily explainable and has solid grounds. In this context, the subjects can be engaged in transforming knowledge and will relate the new information from the picture to their prior experiences and knowledge (Mayes, 1993; Fowler & Mayes, 2000). On the other hand, if a subject doubts or has no experience of any sorts that an ape is able to fly and has never seen one that can do it, he simply may not come out with the idea that apes have the abilities to invade a planet! Furthermore, nobody has seen apes 'talking' before, therefore for those subjects who are practitioners (known as 'pragmatist' according to Honey and Mumford (1992), they are quite reluctant to use wishful imagination to provide unpractical ideas because they need ideas or models that are workable and practical.

## LIMITATIONS AND RECOMMENDATIONS

As a result of this study, some limitations have been identified to make future studies better. The limitations are:

1. The creativity test required the subjects to provide a maximum of 10 ideas only. This action limited the 'real' creative abilities of outstanding subjects. For example, the highest scorer (subject with creativity index = 41) may even score higher if he is given the opportunity of "no limitation to 10 ideas"
2. More samples or more subjects are needed for this study to justify the findings better. More subjects with strict sampling procedure can make generalisations of findings possible and better arguments for the related factors.

However, there are also good points that need to be noted in this study. As creativity has become the main focus of this study, the researchers have the following recommendations:

1. Ideas generation or brainstorming for ideas is good for promoting creative thinking abilities of TESL students. This fact was agreed upon by 93.8% or 30 out of 32 subjects who said that this type of exercise is helpful in promoting ideas generation. It should be introduced into the language curriculum. The present curriculum focuses too heavily on critical thinking. Creative thinking is something that is beyond critical thinking (Crowl et al., 1997). Therefore, the researchers suggest that in the future such activity is to be integrated into computer-assisted teaching learning software for the benefits of the ESL communities
2. This case study also lent support for the development of a computer system that can assist in measuring creativity. The result generated by the system proved that creativity assessment can be partially automated. If experiment of this kind is accurate and valid, it is recommended that further effort must be taken to develop it into a portable,

workable and reliable system that can contribute greatly to the field of creativity measurement.

3. As the researchers surveyed into the various reasons and factors of "ideas generation", further studies must be done in the near future to identify and classify factors that truly contribute to creativity in language teaching.

## CONCLUSION

This study had proven that "ideas generation" method is a successful and effective brainstorming method to enhance creativity of a person. In fact, many researchers had supported this method (Majaro, 1988; Vidal et al., 2004). In teaching and learning many ideas need to be generated to ensure enough vocabularies for the development of a concept (Ustaa & Akkanat,(2015). Therefore, creativity level of student teachers must be maintained high so that they will not be in loss of ideas. The use of a computer-based creativity measuring tool will help to achieve. Therefore, if proven that the system is effective, it needs to be refined and upgraded to ensure that it can contribute to the field of creativity measurement for language teachers in the near future. This study had also shown that some subjects may be creative but lack the mental or will power to come out with better ideas. Therefore, it is proposed that in the future we develop more training modules that employ brainstorming method to train the fluency of producing ideas and hence improving creativity.

## REFERENCES


Cropley, A.J. (1997). Fostering creativity in the classroom: General principles. In M. A. Runco (Ed.). Creativity Research Handbook. Cresskill, New Jersey: Hampton Press, 83-114

Crowl, T.K., Kaminsky, S. & Podell, D.M. (1997). Educational Psychology: Windows on Teaching. Brown & Benchmark Publisher, USA.

Dow, G. (2006). Creativity Tests Index. Available: http://www.indiana.edu/~bobweb/Handout/cretv_6.html. Retrieved on 16 March 2006.

Fowler, C.J.H. & Mayes, J.T. (2000). Learning relationships from theory to design. British Journal of Educational Technology, 23, 195-211.

Gardner, H. (1999). Intelligence reframed: Multiple intelligences for the 21st century. New York: Basic Books

Guilford, J .P. (1988). Some Changes in the Structure-of-Intellect Model. Educational and Psychological Measurement, 48, 1 - 4.

Honey, P. & Mumford, A. (1992). The Manual of Learning Styles. Maidenhead: Peter Honey.

Lubart, T. I. (2001). Models of the creative process: Past, present, and future. Creativity Research Journal, 13, 295-308

Majaro, S. (1988). The Creative Gap: Managing Ideas for Profit. London: Longman

Mayes, J.T. (1993). Commentary: Impact of cognitive theory on the practice of courseware authoring. Journal of Computer Assisted Learning, 9, 222-228.

McCombes, S. (2022). What Is a Case Study? Definition, Examples & Methods. Scribbr. Available at: https://www.scribbr.com/methodology/case-study/

Tan, C. K. (2004). Report on the Level of Creativity of undergraduates of Universiti Malaysia Sabah, Sabah, Malaysia. Dissertation, Universiti Malaysia Sabah

Torrance, E. P. (1990). Torrance tests of creative thinking: Norms-technical manual. Figural (streamlined) forms A and B. Bensenville, IL: Scholastic Testing Service.

Torrance, E. P. (2000). Research review for the Torrance tests of creative thinking figural and verbal forms A and B. Bensenville, IL: Scholastic Testing Service.

Treffinger, D. J., Isaksen, S. G. & Dorval, B. K. (2000). Creative problem solving: An

introduction (3rd Ed.). Waco, TX: Prufrock Press Inc.
Turner, S.R. (1994). The Creative Process: A Computer Model of Storytelling and Creativity. Lawrence Erlbaum Associates, 69-92
Ustaa Erdogan, Akkanat Çigdem (2015). Investigating Scientific Creativity Level of Seventh Grade Students. Procedia - Social and Behavioral Sciences,191(201), pp.1408-1415
Vidal, R., Mullet, E. & Gomez-senent, E. (2004). Effectiveness of the means of expression in creative problem-solving in design groups. Journal of Engineering Design, 15(3), 285 - 298

# A STUDY TO DETERMINE THE SUPPORTING TOOLS OF INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) IN CREATIVITY AMONG STUDENT TEACHERS OF A PUBLIC UNIVERSITY IN SABAH, MALAYSIA

Christty Joseph
Faculty of Psychology and Education, Universiti Malaysia Sabah
agathachristty@gmail.com

## ABSTRACT

Creativity is an essential competence through which people can develop their potential to use their imagination to express themselves and make original and valued choices in their lives. The growing interest and concern in cultivating creativity has prompted much education reforms being undertaken in a number of countries, particularly Malaysia. Creative teaching and reflective practice are the two most important milestones that teachers aspire to attain. This study explores the role of Information and Communication Technology (ICT) in supporting the creativity process of a group of student teachers in a public university in Sabah. The use of ICT includes collecting relevant information or knowledge to scaffold the revision of existing ideas and development of innovative concepts and hence, possible innovations and inventions. The researcher identifies ten most important tasks for the student teachers where ICT application is most appropriate. This is to identify what ICT software is most frequently used and important for the creativity work of each student teacher. Then, the usage of ICT is mapped to the Loveless's Model of Five Elements of Creativity (Loveless, 2002). The result showed that ICT plays an important role, as specified in the Model, in supporting the creativity process of student teachers while completing the ten important tasks. The study suggests that the Ministry of Education, universities or institutions of higher learning stress the importance of computer literacy education for secondary school students. The training should focus on data/information searching strategies via the Web, data arrangement, sorting and analysis (computational software) and graphical as well as presentational software. The training should preferably complete prior to the students entering the universities for further studies.
**Keywords:** Models of creativity, ICT, usage of ICT, creativity support tools

## INTRODUCTION

The last three decades of educational research and development have led some educationists to suggest that man prefers to learn in creative ways through creative and inquiry-oriented activities (Torrance, 1990). This has motivated many researchers to seek and explore for ways of teaching and learning (T & L) in a creative manner.

However, teachers have to be creative first before meeting the challenges of creative T & L. In order to respond to these creative needs of the learner, the teacher would be required to recognize and acknowledge the learner's potentialities. Creativity is latent in every person although this can remain as a suppressed potential in many people. Just how one can discover the inner abilities to perform every task creatively is just as challenging as ever be.

In other words, creativity of a person can be fostered and improved especially his creative thinking skills and abilities. The rapid advancement of Information and Communication Technology (ICT) has created societal transformations and improvements in

the quality of life. Thus, it can play a significant role in fostering creativity. Traditionally, creativity potentials of people are fostered via face-to-face training such as the "PO" programme for lateral thinking by DeBono (1990). Many of these creativity trainings today have been utilizing on face-to-face session (Treffinger & Isaksen, 2001). Therefore, in what way can ICT play its role in supporting creativity training?

The implications of ICT to educational reform are deemed inevitable of which leads to changes in instructional, curricular, administrative and research aspects (Fetterman, 1998; Lesgold,1993). How does ICT facilitate and improve learning? According to constructional learning approach, learning is inherently active, reflective, self-regulated, social, collaborative and problem-oriented in nature. This form of learning can be enhanced using ICT.

Examples of ICT roles in learning are computer-supported collaborative learning, e-mail, Internet Relay Chat (IRC) and videoconferencing for sharing ideas and solving problems collaboratively (Dillenbourg,1999). Furthermore, the Internet serves as an extensive database for users to extract useful information.

This research is designed to investigate the supportive role of ICT for fostering creativity. The respondents are university undergraduates pursuing a degree in Education. For example, a creative student teacher needs to present his/her assignments or projects creatively with the assistance of ICT. In this regard, the research focuses on how ICT can help to fulfill these needs. It also defines the student teachers as people or researchers, who need to go through a process of getting data/information, process them into presentable format and then present and share them with their peers and friends.

## RESEARCH QUESTIONS

This research is designed to provide answers to the following questions:

1. For student teachers to present their assignments or projects creatively, what is the frequently used software that can help achieve this purpose?
2. Do the respondents' usages of ICT comply with the Loveless's Model of Five Elements of Creativity (Loveless, 2002) which emphasizes on the four features of ICT: provisionality, interactivity, capacity or range and speed or automatic functions?

## LITERATURE REVIEW

Creativity is the application of knowledge and skills, in new ways, to achieve valued outcomes. This definition is closely related to innovation; the process by which new ideas, practices and methods of organisation are generated. But creativity is more than just innovation for its own sake. To exercise creativity, we have to be able to understand and respect the parameters of an existing practice, and to go beyond it. Yong (1989) cited Torrance (1974) as saying that creativity is:

> "a process of becoming sensitive to problems, deficiencies, gaps in knowledge, missing elements, disharmonies, and so on; identifying the difficult; searching for solutions, making guesses or formulating hypotheses about the deficiencies; testing and retesting theses hypotheses and possibly modifying and retesting them; and finally communicating the results."

Creativity therefore has to be able to articulate the kind of value it is helping to generate, although this value might be expressed in many different ways. Creativity involves the exercise of imagination. Creative learning often involves finding ways to generate a new perspective on an existing question or practice, and therefore to understand it more deeply.

The process of creativity that was first described by Wallas (1926) has four stages. The first stage is the preparation stage where the problem is investigated from all directions. Secondly, in the incubation stage, the individual is termed as not consciously thinking about the problem. In the subsequent stage, the illumination stage, "the happy idea" emerges. The last stage is the verification stage where the validity of the idea is tested and reduced to exact form.

Follow-up researches on Wallas's model of creativity and its processes had produced many more theoretical models which are more or less the combination, break-up or a modification of the basic model. Stein (2004) as cited in Tan and Law (2004) defines creativity as a three-stage process namely hypothesis formation, hypothesis testing and communication of results. It combines the preparation, incubation and illumination stages of the Wallas Model into hypothesis formation stage and adds another stage for communication of results. Stein (2004) views the publication and sharing of the creative work in the communication of results stage as vitally important to the research communities.

Rhodes's (1961) theoretical model of creativity is in a form of Person, Process, Product and Press or familiarly known as 4Ps. It describes creativity in terms of components. The Product and Press components are quite similar to Stein's hypothesis testing and communication of results while the Person and Process resemble the first three stages of the Wallas's Model.

On the other hand, Gardner's Model of Multiple Intelligences features creativity in a form pluralistic theory of mind, recognizing multiple intelligences in individuals and differing a person's creativity through his/her innate abilities (Gardner, 1983, 1993). For example, a gifted person with musical talent can display his creativity best with this special inner ability.

Creativity can also be categorised with a Model by Amabile (1982) in different interacting components. It involves an individual that possesses domain-relevant knowledge, creative skills and intrinsic motivation that interacts with the external social environment that resulted in his creativity. In addition, creativity can also be studied as a system approach (Csikszentmihalyi, 1996). Csikszentmihalyi describes an individual operating within a domain, presenting his work to be judged by a panel of judges on the other side of the system for acceptance as a creative contribution.

Shneiderman (2000, 2002a, 2002b) understands creativity in a form of genex framework in which there are four activities for generating excellence. The Collect stage involves learning or exploring previous work stored in libraries (or the Web) while the Relate stage involves collaboration of ideas with peers and mentors. In the Create stage, a person explores, composes and evaluates possible solutions. The last stage is the Donate stage where the results are contributed and shared in a form of publications in reports or journals.

Loveless proposed a Model with five elements of creativity (Loveless, 2002). The elements are using imagination, fashioning process, pursuing purpose, being original and judging value. These five elements can be fostered with the appropriate use of ICT. The using imagination stage is the process of supposing and generating original ideas and providing an alternative to the problem under investigation. The fashioning process stage is the skills where an idea is shaped, refined and managed. The pursuing purpose stage is where the motivated person uses his imagination to produce tangible outcomes from purposeful goals.

In the being original stage, the person displays originality in his work in relation to his previous work, peers and historically (completely new and unique). The last stage, the judging stage, is where evaluation takes place when other individuals and peers give reflective review and comments on the accomplished creative work.

Loveless (2002) also suggests four features of ICT that can be mapped with the five characteristics of creativity. They are provisionality, interactivity, capacity or range and speed or automatic functions. The definitions for these four features are as below:

- Provisionality → users can make changes or edit ideas, try out alternatives and keep track of the development of ideas
- Interactivity → engage users at a number of levels
- Capacity or range → provide access to vast amount of information in various geographical locations (in databases)
- Speed or automatic functions → technology for storing, transforming, interpreting, analyzing, synthesizing and displaying information at the highest level

Table 1 below summarises the relationship between creativity and ICT with examples of possible ICT application that can be used.

**Table 1:** Relationship between creativity and ICT and examples of ICT application

| Features of ICT | Characteristics of creativity | Examples of ICT application |
|---|---|---|
| Provisionality | Using imagination<br>Being original | Word processors (editing, storing, retrieving data) |
| Interactivity | Fashioning process<br>Pursuing purpose<br>Judging value | Educational software or multimedia learning systems that supports interactive functions (created with authoring tools or Database Management System) |
| Capacity or Range | Pursuing purpose | World Wide Web (Internet, e-mail, chatting, online forums, digital library) |
| Speed or automatic functions | Pursuing purpose<br>Being original | Technology for storing (databases, etc), computational (spreadsheets, etc) and presentational tools (MS Power Points, digital slides, etc) |

Information and Communications Technology (ICT) refers to both computer and communication technology. IT (Information Technology) is defined as any equipment or interconnected system (subsystem) of equipment that includes all forms of technology used to create, store, manipulate, manage, move, display, switch, interchange, transmit or receive information in its various forms. Information can be in the form of: business data; voice conversations; still images; motion pictures; multimedia presentations and other forms including those not yet conceived. The meaning of communication refers to a system of shared symbols and meanings that binds people together into a group, a community, or a culture. The word communication is added to IT so as to make a network of the usage of Information Technology (Merriam Online Dictionary, 2006).

It is therefore clear that ICT plays an important supportive role in the creativity processes. For example, in the Sneiderman's Genex Framework's Collect stage, World Wide Web or the Internet has a vast number of ideas and information in regard to a problem under investigation. This saves the researcher a great deal of time and cost as searching relevant materials in the libraries needs extensive traveling, energy and financial cost. The internet technologies such as the browsers provide all the interfaces needed to accomplish the work.

In the Relate stage, Internet communication tools such as e-mail, IRC, online forums and video conferencing technologies provide users the means to consult and collaborate with peers and mentors to ensure speedier solutions. In contrast to this, without ICT a user will need to get a big research funding to finance his travel to various destinations to get materials and confirm findings with his peers or mentors. In other words, ICT contributes greatly to the creation of creative products nowadays.

In the Create stage, users have the choices of various ICT tools to achieve different purposes. For example, Microsoft Office has word processor (MS Word) for preparing reports, spreadsheet for computational work (MS Excel), presentational tool for creative presentation of the work done (MS Power Point) and data management purposes (MS Access). In the Donate stage, again MS Office provides all the necessary software for the storage and distribution of the work. For wide distribution of the work, Internet technology such as network storage and personal websites on Servers help greatly in achieving the sharing purposes of the work with the international research communities.

ICT skills are usually taught in secondary schools as discrete skills. The individual software that they learned is often for general use (word processing, spreadsheets and presentational tools) and not specializing in educational software development. Nevertheless, Wheeler et al. (2001) find that the focus of computers is as an effective mind tool which can liberate and foster creativity in students. This study will provide answers that ICT supports creativity.

## RESEARCH METHODOLOGY

The researcher uses the survey method to get data from the subjects. The respondents are student teachers who take Computer and Multimedia in Education course in the Faculty of Psychology and Education of a public university in Sabah, Malaysia. Purposive sampling procedure is used to select subjects for this study. Out of 210 randomly respondents, only 203 of them returned the Questionnaire and furthermore, another5 subjects were disqualified due to incomplete information needed for this research. As a result, the final number of subjects for this study is 198.

The respondents were given the Questionnaire during one of the lecture by the Course Lecturer (for both courses). They were required to listen to the 5 minutes briefing by the researcher to clarify terms used in the Questionnaire that are difficult to understand. The filling up of the Questionnaire requires only about 15 minutes. After they completed the Questionnaires, they were collected immediately for further analysis.

### Instrument and Data Analysis

The main instrument used in this research is the Questionnaire to survey the type of software student teachers used to complete their assignments or academic writing. In Section A, respondents need to provide their background. In Section B, ten most frequent tasks related to creativity that require use of ICT software in their work are identified. The ten tasks are mapped to the features of ICT in Loveless Model as shown in Table 2 below.

**Table 2:** The ten creativity tasks identified for the four features of ICT

| Features of ICT | Items |
|---|---|
| **Provisionality**<br><br>Types of software:<br>MS Word, MS Excel, MS Power Point, MS Access | Task 3: Analyse and organise data (figures) or concepts/ideas into tables/charts/diagrams for presentation purposes<br>Task 9: Modify, categorise and synthesise data or information for improving my assignments/projects/academic writing |
| **Interactivity**<br><br>Types of software:<br>MS Word, MS Excel, MS Power Point, MS Access, Macromedia Flash, | Task 6: Prepare computer-based Teaching and Learning modules for ICT projects/ Teaching Practicum<br>Task 10: Create simple database for standalone operation or online learning |

| | |
|---|---|
| Macromedia Authorware/Director, Asymetric Toolbook, MS Frontpage/ Macromedia Dreamweaver, Internet, e-mail and online forums | |
| **Capacity/Range**<br><br>Types of software:<br>Internet, e-mail, online forums and digital library | Task 1: Search for new ideas or information for assignments /projects/academic writing in the Internet<br>Task 2: Download charts, drawings, graphics or simple animations for assignments/ projects<br>Task 7: Search for useful references in digital library for constructive or meaningful arguments (literature review) in assignments/ reports/dissertation/ academic writing<br>Task 8: Send/receive information /ideas/ knowledge from my friends (course mates) for sharing using ICT |
| **Speed/Automatic functions**<br><br>Types of software:<br>MS Word, MS Excel, MS Power Point, Macromedia Flash, Macromedia Authorware/Director, Asymetric Toolbook and MS Frontpage/Macromedia Dreamweaver | Task 4: Present assignment/projects creatively<br>Task 5: Present Teaching and Learning materials in a form of notes or simplified diagrams or modified/self-drawn graphics or cartoons or animations |

The inter-item reliability of the four features of ICT using Cronbach's Alpha is shown in Table 3 below.

**Table 3:** Cronbach's Alpha for four features of ICT

| Features of ICT | Questionnaire Items | Cronbach's Alpha |
|---|---|---|
| Provisionality | Task 3 and 9 | .73 |
| Interactivity | Task 6 and 10 | .77 |
| Capacity/Range | Task 1, 2, 7 and 8 | .70 |
| Speed/Automatic functions | Task 4 and 5 | .78 |

Task 3 and 9 which represent Provisionality focus on word processing type of software (typing, editing, storing and retrieving) while Task 6 and 10 which represent Interactivity focus on the type of software that can create educational system or multimedia application. Task 1, 2, 7 and 8 (Capacity/Range) focus on software that is used for data or information gathering and sharing using the Internet while Task 4 and 5 (Speed/Automatic functions) focus on computational and presentation types of software.

Each of the four ICT features for the creativity model (Loveless) is given score. If a respondent uses one type of software to accomplish a task, he is given one point. If he uses more software, for example three types of software to accomplish Task 1, he will score 3 points. The maximum score for each ICT feature is shown in Table 4 below.

**Table 4:** Features of ICT and maximum score for software used

| Features of ICT | Maximum Score |
|---|---|
| Task 3 and 9 (Provisionality) | 9 |
| Task 6 and 10 (Interactivity) | 6 |
| Task 1, 2, 7 and 8 (Capacity/Range) | 16 |
| Task 4 and 5 (Speed/Automatic functions) | 6 |

The score for each ICT feature for each respondent (n = 198) will be compared. For comparison purposes, each respondent's score is first converted to 100%. The conversion formula is the following:

Usage of software (%) = (Score / maximum score respectively) x 100

For example, if a respondent scores 6 for Provisionality, his percentage for usage of software is 66.67% ([6/9] x 100). The mean percentage for usage of software for each ICT feature was therefore the sum of all "percentage for usage of software" for all the 198 respondents and then divided by198. After calculating the means, the number of respondents (f) who have scores more than the mean of each ICT feature was recorded and converted to percentage (Percentage = [f/n] x 100 where n = 198). If the percentage is high, it indicates high usage of ICT for that particular feature and vice versa.

## RESULTS AND DISCUSSION

The survey provides data for the most frequently used software for the creativity process based on Loveless Model (Loveless, 2002). The result is revealed in Table 5.

**Table 5:** Total usage of software for creativity according to types

| Types of Software | Frequency of usage (Total Score) |
|---|---|
| MS Word | 1005 |
| MS Power Point | 650 |
| Online applications using the Internet | 477 |
| MS Excel | 397 |
| E-mail | 269 |
| Digital library | 186 |
| Online forums | 62 |
| MS Access | 22 |

The most frequently used software is MS Word with a total score of 1005 with MS Power Point coming up next at 650. This is due to the fact that MS Word and MS Power Point are commonly used by student teachers to accomplish given assignments and projects. MS Word is most suitable for typing and editing information and to create reports or dissertations. To present their work, MS Power Point is normally used to prepare the presentation slides. Both MS Word and Power point were taught to all student teachers when they were in secondary schools prior to their university education.

Online applications using the Internet and MS Excel are third and fourth with total score of 477 and 397 respectively (refer to Table 5). Student teachers normally search the Web for information to finish their assignments or projects. As for MS Excel, most student teachers have some knowledge because it is taught during their secondary schooling days. The knowledge helps them to keep data in numerical format for further analysis or graphs creations.

The result also revealed that other software is not so frequently used by the students to accomplish the identified 10 Tasks (refer to Table 5). Although e-mail and digital library are also sources of information beside Internet, the result indicated that their usages are only at medium level.

**The Role of ICT in the Loveless's Model of Five Elements of Creativity**

Table 6 shows the role of ICT in the Loveless's Model of Five Elements of Creativity. The overall mean percentage usage of ICT by student teachers for producing creative assignments or projects is considered average (less than 55%) with Speed/Automatic functions the highest mean percentage for the usage of software at 54.97 (SD = 12.19), followed by Provisionality at 50.95 (SD = 13.15), Capacity/Range at 46.40 (SD = 9.66) and Interactivity at 36.45 (SD = 16.37).

**Table 6:** The percentage of software usage for features of ICT in the Loveless's Model of Five Elements of Creativity

| Characteristics of creativity | Features of ICT | Usage of software (Mean Percentage) | SD | Number of respondents (f) with score more than the mean (n = 198) | Percentage number of respondents with score more than the mean (f/198 * 100) |
|---|---|---|---|---|---|
| Using imagination<br>Being original | Provisionality | 50.95 | 13.15 | 110 | 55.56 |
| Fashioning process<br>Pursuing purpose<br>Judging value | Interactivity | 36.45 | 16.37 | 76 | 38.38 |
| Pursuing purpose | Capacity / Range | 46.40 | 9.66 | 139 | 70.20 |
| Pursuing purpose<br>Being original | Speed / Automatic functions | 54.97 | 12.19 | 77 | 38.89 |

According to Table 6, the percentage number of respondents with scores more than the mean percentage usage for Capacity/Range is the highest at 70.20%. This is because the Web serves as the greatest data and information provider and also the Internet which makes collaborative sharing (such as e-mail and online forums) highly available and accessible.

The next on the list is Provisionality at 55.56%. The high usage of ICT for Provisionality is in producing their creative works is because most of them use word processors (such as MS Word) to arrange, analyse and present data and information creatively in their assignments and projects. The evidence of tables, charts, useful arguments and all type of data analysis found in the assignments/projects lend proof to this finding.

The software usage for features such as Interactivity and Speed/Automatic functions are the least with only 38.38% and 38.89% of the number of respondents with scores more than the mean. Interactivity feature requires student teachers to create or use software that provides interactive functions such as those with online applications. However, data in Table 5 proves that the usage of interactive authoring tool is quite limited. Educational programmes are also quite difficult to create because authoring tools are also not easy to master and it requires some programming basics. Another possible reason for this is the fewer assignments or projects that are related to the use of these tools and thus the low percentage of usage as compared to other features.

As for Speed/Automatic functions feature, it requires student teachers to present and share creative work with peers and friends in the university. It is worthwhile to take note that most of their presentations and quality of displayed information (analysed data) are given marks by their course lecturers and therefore ample use of ICT tools are needed to accomplish the tasks creatively. The low percentage of usage may be due to fewer assignments or projects that require the use of authoring tools and hence the low score for usage under this feature.

The conclusion for this section is that the pattern of ICT usage as mapped to the four features of ICT clearly shows that ICT supports the five elements of creativity that is using imagination, fashioning process, pursuing purpose, being original and judging value. It helps to promote creativity to a higher level. This is to say ICT improves the student teachers' work (assignments/projects) tremendously in creative ways such as to be able to display data/information into tables, charts and graphically and also analyse and present data creatively.

## LIMITATIONS AND SUGGESTIONS

The first limitation of this study is the sampling technique used. There are four educational programmes in the faculty. However, as a result of purposive sampling, only two groups (two cohorts of students taking two undergraduate courses) of student teachers were being selected. Therefore, the findings cannot be generalised to the population of this study.

The next is the assumption that the student teachers' answers to the survey are accurate. However, there exist possibilities where a student teacher may not give accurate answers due to factors like lack of cooperation, honesty, etc.

This study also makes some suggestions to the Ministry of Education (MOE), universities or institutions of higher learning where similar situations are applicable. The results indicate that the high usage of ICT to produce creative work (which includes presentation and collaborative sharing via e-mail, etc) are featured in the four features of ICT in the Loveless Model. Therefore, it is recommended that the MOE, universities or institutions of higher learning produce learning modules that utilize computer skills in projects or learning activities. The training should focus on data/information searching strategies via the Web, data arrangement, sorting and analysis (computational software) and graphical as well as presentational software.

The study also clearly demonstrates that the student teachers' pattern of ICT usage in the creativity process as featured in Loveless's Model of Five Elements of Creativity is indeed in accordance with the four features of ICT (Provisionality, Interactivity, Capacity/Range and Speed/Automatic functions). As a result, the role of ICT in the creativity process cannot be singled out. In other words, ICT plays an important and supportive role in creativity. The suggestion here is that schools or colleges must ensure that every student teacher has attended some minimal computer literacy training preferably prior to entering the universities to further study so that creativity and innovations can be further enhanced with ICT skills.

## CONCLUSION

This study has proved that ICT features are also important in the creativity process (Loveless Model). The data shows that ICT is an important, supportive tool for the basic creativity process or cycle. ICT is used in the data gathering or searching stage through the help of the Web and further helps in providing software for typing or keeping data. The data is then further processed or manipulated through data arranging (in tables), sorting and analysis (computational) and create presentable charts via presentational software. The final creative product (assignments or projects) is then shared with peers and friends via the help

of Internet (e-mail, online forums, etc). This confirms with previous studies (Loveless, 2002) that ICT has a big supportive role in creativity.

## REFERENCES


Amabile, T. (1982). Social Psychology of Creativity: A Consensual Assessment Technique. Journal of Personality and Social Psychology, 43, 997-1013

Csikszentmihalyi, M. (1996). Creativity: Flow and the Psychology of Discovery and Invention. New York: HarperCollins.

DeBono, E. (1990), Lateral Thinking. London: Penguin

Fetterman, D.M. (1998). Webs of Meaning: Computer and Internet Resources for Educational Research and Instruction. Educational Researcher, 27(4) 22-30

Gardner, H. (1983). Frames of Mind: The Theory of Multiple Intelligences. New York: Basic Books.

Gardner, H. (1993). Creating Minds. New York: Basic Books.

Lesgold, A. (1993). Information Technologies and the Future of Education. In S.P. Lajoie & S.J. Derry (Eds.), Computers as Cognitive Tools. Hillsdale, NJ: Erlbaum, 369-383

Loveless, A.M. (2002). Literature Review in Creativity, New Technologies and Learning. A Report for NESTA Futurelab.

Merriam Online Dictionary, (2006). Available: http://www.m-w.com

Rhodes, M. (1961). An Analysis of Creativity. Phi Delta Kappan, 42, 305-310.

Shneiderman, B. (2000). Supporting Creativity with Powerful Composition Tools for Artifacts and Performances. Paper presented at the 33rd Hawaii International Conference on System Sciences. IEEE Computer Society.

Shneiderman, B. (2002a). Leonard's Laptop: Human Needs and the New Computing Technologies. Cambridge, MA: MIT Press.

Shneiderman, B. (2002b). Creativity Support Tools. Communications of the ACM, 45(10), 116-120.

Stein, M.I. (2004). Creativity and the Teacher. In Tan, A.G. and Law, L.C. (2004). Creativity for Teachers. Singapore: Marshall Cavendish Academic

Treffinger, D. J. and Isaksen, S. G. (2001). Teaching for creative learning and problem solving. In Costa, A. L. (Ed.). Developing mind: A resource book for teaching thinking (3rd Ed.) Alexandria, VA: Association for Supervision and Curriculum Development, 442-445

Tan, Ai - Girl and Law Lai - Chong (2004). Creativity for Teachers. Singapore: Marshall Cavendish Academic, 1 - 15

Torrance, E.P. (1990). The Torrance Tests of Creative Thinking: Norms-technical Manual. Bensenville, IL: Scholastic Testing Service, Inc.

Dillenbourg, P. (1999). Collaborative Learning: Cognitive and Computational Approaches. Oxford: Elsevier Science/Pergamon.

Wallas, G. (1926). The Art of Thought. New York: Harcourt.

Wheeler, S., Waite, S.J. and Bromfield, C. (2001). Promoting Creative Thinking through the Use of Web Based Learning Resources. Available: http://rilw.emp.paed.uni-muenchen.de/2001/papers/wheeler1.pdf

Yong, Leonard M.S. (1989). Creativity: A Study of Malaysian Students. Chee Leong Press, 1-15


UMS

UNIVERSITI MALAYSIA SABAH